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.

William Marsh Rice University
Physical Address: 6100 Main Street, Houston, Texas 77005
Mailing Address: P.O. Box 1892, Houston, Texas 77251–1892
Telephone: Campus Operator 713-348-0000
Homepage Address: http://www.rice.edu
2004–2005 General Announcements online: http://www.rice.edu/catalog/

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; 713-348-7423

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

Career Services, Part-time Employment: 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 68–71)

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.
ACADEMIC CALENDAR 2004–2005

FALL 2004

Monday, August 2 .............................. Deadline: Tuition due for entering freshmen
Tuesday, August 10 ....................... Deadline: Tuition due for returning undergraduate students

Sunday, August 15
(through Friday, August 20) .................... Orientation week for new students

Monday, August 16 ......................... Deadline: Tuition due for graduate students
Monday, August 23 ......................... First day of classes
Friday, September 3 ......................... Deadline: Last day to add courses without a fee

Deadline: Last day to add a course without obtaining instructors permission
Deadline: Last day to withdraw with a 100% refund of tuition and fees
Deadline: Last day to drop to part-time with a 100% refund of tuition

Friday, September 3 at 5:00 P.M............. 1st Registration/Add/Drop PIN for fall 2004 expires for all undergraduates online registration is disabled so that PINs may be reset

Monday, September 6 ....................... Labor Day (holiday—no classes)
Tuesday, September 7 at 9:00 A.M. ......... Online registration resumes
(through Friday, October 29 at 5:00 P.M.) ... Online registration resumes

Tuesday, September 7 ....................... Registration continues for undergraduate students
Friday, September 10 ....................... Deadline: Last day to withdraw or drop to part-time with a 70% refund of tuition

Friday, September 17 ....................... Deadline: Last day to complete late registration or add courses
Deadline: Last day to drop courses without a fee
Deadline: Last day to designate a course as “Audit” or vice versa
Deadline: Last anticipated aid for fall shows as a credit on student accounts
Deadline: Last day to withdraw or drop to part-time with a 60% refund of tuition

Friday, September 24 ....................... Deadline: Last day to convert a “Pass/Fail” to an earned letter grade for courses taken in spring 2004
Deadline: Last day for instructors to submit final grades to clear “Incompletes” for courses taken in spring 2004
Deadline: Last day to withdraw or drop to part-time with a 50% refund of tuition
Friday, October 1 ................................. **Deadline:** Last day to withdraw or drop to part-time with a **40% refund of tuition**

Friday, October 8 ................................. **Deadline:** Mid-semester grades for first-year undergraduate students due

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

**Deadline:** Last day to withdraw or drop to part-time with a **30% refund of tuition**

Monday, October 11  
(through Tuesday, October 12) ............... **Midterm Recess**

Wednesday, October 13 .......................... All classes normally held on Monday meet; all Wednesday classes canceled (to equalize holidays by days of the week during the semester)

Friday, October 15 ................................. **Deadline:** Last day to withdraw or drop to part-time with a **20% refund of tuition**

Friday, October 22 ................................. **Deadline:** Last day to withdraw or drop to part-time with a **10% refund of tuition**

Friday, October 29 at 5:00 P.M. ................. Fall Registration/Add/Drop PINs expire for undergraduates  

**Deadline:** Last day to drop courses for all graduate students and “returning” undergraduate students with a $10.00 fee  

**Deadline:** Last day to designate a course status to “Pass/Fail” option

Monday, November 1 ............................. **Deadline:** Last day to file an application for a May 2005 conferral of degree with the Office of the Registrar

**Deadline:** Last day to file an application for mid-year conferral of degree with the Office of the Registrar  

**Deadline:** Last day to file the following in the Office of Graduate Studies for mid-year degree conferral:  
- Thesis master’s candidacy petitions  
- Certification of non-thesis master’s  
- Form for automatic master’s  
- PhD candidacy petitions

Monday, November 1  
(through Friday, January 21, 2005) ............ 1st Registration/Add/Drop PIN is active for undergraduates for spring 2005 registration

Monday, November 1  
(through Sunday, November 7) ............... Spring 2005 registration begins for currently enrolled undergraduate, graduate and fifth-year students

Monday, November 8 ............................. Students who are planning to enroll for spring 2005 but failed to do so last week will be assessed a $55 “Failure to Register” fee

Monday, November 15  
(through Friday, November 19 at 5:00 P.M.) ...... Registration for SELF-scheduled final exams for undergraduate courses

Monday, November 15 ............................ **Deadline:** Last day to complete financial aid application for fall 2004
Deadline: Last day to register for SELF-scheduled final exams for undergraduate courses

**Thursday, November 25**
(through Friday, November 26) **Thanksgiving Recess (holiday—no classes)**

**Wednesday, December 1** **Deadline:** Last day to complete loan applications for fall 2004

**Friday, December 3** **Last day of classes**

*Deadline:* (for fall 2004 matriculants only) Last day to drop courses—students must go to the Office of the Registrar **by 5:00 P.M.**

*Deadline:* For a mid-year conferral of degree, students must submit theses to the Office of Graduate Studies **by 12:00 NOON**

*Deadline:* Withdrawal for non-payment occurs for failure to pay amounts owed to the university

*Deadline:* All Faculty Evaluations are due to the Office of the Registrar **by 5:00 P.M.**

**Saturday, December 4**
(through Wednesday, December 15) SELF-scheduled exams for undergraduate courses

**Wednesday, December 8**
(through Wednesday, December 15) Scheduled FINAL exams for undergraduate courses

**Wednesday, December 15 at 5:00 P.M.** **Deadline:** All take home final examinations are due

**Wednesday, December 22 at 12:00 NOON** **Deadline:** All final grades are due to the Office of the Registrar

**Spring 2005**

**Monday, January 3** Online registration resumes

**Wednesday, January 5** **Deadline:** Tuition due for all students

**Wednesday, January 12** **First day of classes**

**Monday, January 17** **Martin Luther King, Jr. Day (holiday—no classes)**

**Wednesday, January 19** All classes normally held on Monday meet; all Wednesday classes canceled (to equalize holidays by days of the week during the semester)

**Friday, January 21 at 5:00 P.M.** 1st Registration/Add/Drop PIN expires for all undergraduates online registration is disabled so that PINs may be reset

*Deadline:* Last day to resolve grades of “Other” from fall 2004

**Monday, January 24 at 9:00 A.M.**
(through Friday, April 1 at 5:00 P.M.) Online registration resumes

2nd Registration/Add/Drop PIN is active for undergraduates for spring 2005 registration

**Friday, January 28** **Deadline:** Last day to add courses without a fee

**Deadline:** Last day to add a course without obtaining instructor’s permission
**Deadline:** Last day to withdraw with a **100% refund of tuition and fees**  
**Deadline:** Last day to drop to part-time status with **100% refund of tuition**

**Tuesday, February 1**  
**Deadline:** Last day to file the following in the Office of Graduate Studies for a May 2005 conferral of degree:  
- Thesis master’s candidacy petitions  
- Certification for non-thesis master’s  
- Form for automatic master’s  
- PhD candidacy petitions

**Friday, February 4**  
**Deadline:** Last day to withdraw or drop to part-time status with a **70% refund of tuition**

**Friday, February 11**  
**Deadline:** Last day to complete late registration or add course(s)  
**Deadline:** Last day to drop courses without a fee  
**Deadline:** Last day to designate a course as “Audit” or vice versa  
**Deadline:** Last day to withdraw or drop to part-time status with a **60% refund of tuition**  
**Deadline:** Last day anticipated aid for spring shows as credit on student accounts

**Tuesday, February 15**  
Financial aid application materials available to returning students to apply for need-based aid for 2005-2006

**Friday, February 18**  
**Deadline:** Last day for students to convert a “Pass/Fail” to an earned letter grade for courses taken in fall 2004  
**Deadline:** Last day for instructors to submit final grades to clear “Incompletes” for courses taken in fall 2004  
**Deadline:** Last day to withdraw or drop to part-time status with 50% **refund of tuition**

**Friday, February 25**  
**Deadline:** Last day to withdraw or drop to part-time status with a 40% **refund of tuition**

**Friday, March 4**  
**Deadline:** Mid-semester grades for first-year undergraduate students are due  
**Deadline:** College course plans are due to the Vice President for Student Affairs  
**Deadline:** Last day to withdraw or drop to part-time status with a 30% **refund of tuition**

**Monday, March 7**  
(through Friday, March 11)  
**Spring Break (no classes)**

**Friday, March 11**  
**Deadline:** Last day to withdraw or drop to part-time status with a 20% **refund of tuition**

**Friday, March 18**  
**Deadline:** Last day to withdraw or drop to part-time status with a 10% **refund of tuition**

**Friday, March 25**  
**Deadline:** Sophomores must file a Declaration of Major form with the Office of the Registrar
Friday, April 1 at 5:00 P.M. ....................... Spring Registration/Add/Drop PINs expire for undergraduates  
**Deadline:** Last day to drop course(s) for all graduate students and “returning” undergraduate students with a $10.00 fee  
**Deadline:** Last day to designate a course as “Pass/Fail”  
**Deadline:** Last day to complete financial aid applications for spring 2005  

Monday, April 4  
(through Friday, September 2) .................... First Registration/Add/Drop PIN is active for undergraduates for fall 2005 registration  

Monday, April 4  
(through Tuesday, April 12) ..................... Fall 2005 registration begins for currently enrolled undergraduate, graduate and fifth year students  

Thursday, April 7  
(through Friday, April 8) ....................... **Spring Recess (no classes)**  

Monday, April 11 ................................. Summer term financial aid applications available  

Wednesday, April 13 ............................ Students who are planning to enroll for fall 2005 but failed to do so last week will be assessed a $55 “Failure to Register” fee  

Friday, April 15 ................................. **Deadline:** Last day to complete loan applications for spring 2005  
**Priority Deadline:** For returning and graduate students to submit financial aid applications for 2005–2006  

Monday, April 18  
(through Friday, April 22 at 5:00 P.M.) ....... SELF-scheduling of final examinations for undergraduate courses  

Friday, April 22 at 5:00 P.M. ..................... **Deadline:** Last day to register for SELF-scheduled final exams for undergraduate courses  

Friday, April 29 ................................. **Last day of classes**  
**Reading day (no classes)** except for lab courses and seminars that meet once a week  
**Deadline:** (for spring 2005 undergraduate matriculants only) Last day to drop courses  
**Deadline:** For a May 2005 conferral of degree, students must submit theses to the Office of Graduate Studies by **12:00 noon**  
**Deadline:** All Faculty Evaluations are due to the Office of the Registrar by **5:00 p.m.**  
**Deadline:** Withdrawal for non-payment occurs for failure to pay amounts owed to the university  
**Deadline:** Last day to submit summer financial aid applications  

Saturday, April 30  
(through Thursday, May 5 at **12:00 noon**) .... **All degree candidates:** All SELF-scheduled, scheduled final, and take-home exams must be completed
Saturday, April 30
(through Wednesday, May 11) .......... All non-graduating students: SELF-scheduled exams for undergraduate courses

Wednesday, May 4
(through Wednesday, May 11) .......... All non-graduating students: Scheduled FINAL exams for undergraduate courses

Saturday, May 7 at 9:00 A.M. .......... Deadline: Grades for all degree candidates are due in the Office of the Registrar

Saturday, May 14 .......... Ninety-Second Commencement

Wednesday, May 18 at 9:00 A.M. .......... Deadline: All grades for non-graduating students are due in the Office of the Registrar

Friday, June 10 .......... Deadline: Last day to resolve grades of “Other” from spring 2005

SUMMER 2005
Early Session (May 10–27)

Monday, April 11 .......... Summer term financial aid applications available

Wednesday, April 13 .......... Deadline: For early application discount (by 2:30 P.M.)

Friday, April 29 .......... Deadline: For application to Early Session courses (by 2:30 P.M.)
Deadline: To submit summer aid applications

Tuesday, May 3 .......... Notification sent to applicants who submitted applications by April 29

Monday, May 9 .......... Registration: 9:00 A.M. – 2:00 P.M.
Deadline: For final tuition payment

One week after first class .......... Deadline: For dropping courses without academic penalty (no refunds) (by 3:00 P.M.)

Tuesday, May 10 .......... First day of classes – Early Session

Thursday, May 12 .......... Deadline: For adding courses (by 3:00 P.M.)
Deadline: For late registration (by 3:00 P.M.)

Monday, May 16 .......... Deadline: For visiting and Class III students to submit transcripts (must be received by this date)

Wednesday, May 18 .......... Deadline: For submitting refund requests (must be received by this date) Please see section on Withdrawal Penalty and Tuition Refund.

Friday, May 20 .......... Deadline: For designating “Pass/Fail” option (by 3:00 P.M.)

Friday, May 27 .......... Last day of classes – Early Session

Monday, May 30 .......... University holiday

Friday, June 3 .......... Deadline: For completion of all Early Session course work, including final examinations. Exam schedule determined by instructor.

Friday, June 10 .......... Deadline: For submitting grades to the School of Continuing Studies Summer School Office (by 3:00 P.M.)
Summer 2005

General Session (May 31–July 22)

Monday, April 11 ........................................ Summer term financial aid applications available
Wednesday, April 13 ................................. Deadline: For early application discount (by 2:30 P.M.)
Friday, April 29 ......................................... Deadline: To submit summer aid applications
Friday, May 13 ......................................... Deadline: For application to General Session courses (by 2:30 P.M.)
Thursday, May 19 ..................................... Notification sent to applicants who submitted applications by May 13
Friday, May 27 ......................................... Registration, 9:00 A.M. – 2:00 P.M.
Deadline: For final tuition payment
One week after first class........................... Deadline: For dropping courses without academic penalty (no refunds) (by 3:00 P.M.)
Monday, May 30 ....................................... University holiday
Tuesday, May 31 ....................................... First day of classes – General Session
Friday, June 10 ........................................ Deadline: For adding courses (by 3:00 P.M.)
Deadline: For late registration (by 3:00 P.M.)
Monday, June 13 ..................................... Deadline: For visiting and Class III students to submit official transcripts (must be received by this date)
Monday, June 20 ..................................... Deadline: For submitting refund requests (must be received by this day.) Please see section on Withdrawal Penalty and Tuition Refund.
Monday, July 4 ....................................... University holiday
Wednesday, June 6 ................................. Deadline: For designating “Pass/Fail” option (by 3:00 P.M.)
Friday, July 22 ........................................ Last day of classes – General Session
Tuesday, July 26 ....................................... Deadline: For completion of all General Session course work, including final examinations
Friday, July 29 ....................................... Deadline: For submitting grades to School of Continuing Studies Summer School Office (by 3:00 P.M.)
Friday, August 5 ...................................... Final grades mailed from the Office of the Registrar
MESSAGE FROM THE PRESIDENT

Rice University is one of the most distinguished universities in the United States. We pride ourselves both on the quality of our undergraduate education and on our commitment to outstanding graduate education and research. In addition to its strong academic offerings and programs, undergraduate life is built on community and responsibility, as reflected in the residential college system and the Honor System. Our faculty’s extraordinary contributions to research cut across many disciplines.

General Announcements is a guide to the world of Rice University: the academic backgrounds of our faculty; the rules and responsibilities of student life, both graduate and undergraduate; the diverse scope of our degree programs; and especially the richness of our curriculum. Each of our eight schools carries on Rice’s tradition of excellence.

We invite you, through General Announcements and our website—http://www.rice.edu—to explore the distinctive qualities of Rice University.

David W. Leebron
President
William Marsh Rice University
THE UNIVERSITY AND THE 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 2,822 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 1,948 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 2.25 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.
Board of Trustees

Trustees

E. William Barnett, Chair
J. D. Bucky Allshouse
D. Kent Anderson
Teveia Rose Barnes
Alfredo Brener
Robert T. Brockman
Albert Y. Chao
James W. Crownover
Edward A. Dominguez
Bruce W. Dunlevie
James A. Elkins, III
Lynn Laverty Elsenhans
Douglas Lee Foshee
Karen Ostrum George
Susanne Glasscock
Carl E. Insgren
K. Terry Koonce
Cindy Lindsay
Michael R. Lynch
Robert T. Maxfield
Steven L. Miller
M. Kenneth Oshman
Marc Shapiro
William N. Sick
L. E. Simmons

Trustee Advisers

Judy Ley Allen
Richard A. Chapman
Stephen C. Cook
Thomas H. Cruikshank
J. Thomas Eubank
William S. Farish, III
Catherine Coburn Hannah
Joyce Pounds Hardy-McDonald
James W. Hargrove
Gerald D. Hines
William P. Hobby
T. Robert Jones
Baine P. Kerr
William F. Kieschnick
Neal T. Lacey, Jr.
William M. McCordell
Jerry McCleskey
J. W. McLean
G. Walter McReynolds
James R. Meyers
Pat H. Moore
S. I. Morris
Paula Meredith Mosle
James W. Rambin
David L. Rooke
Frank B. Ryan
Louisa Stude Sarofim
Gus A. Schill, Jr.
Stephen J. Shaper
Stephen B. Smith
Louis D. Spaw, Jr.
Selby W. Sullivan
Helen Saba Worden

Trustees Emeriti

Josephine E. Abercrombie
J. Evans Attwell
James A. Baker, III
Raymond Brochstein
Harry J. Chavanne
John L. Cox
Janice G. Doty
Charles W. Duncan, Jr.
Matt F. Gorges
C. M. Hudspeth
Lee Hage Jamail
Edward W. Kelley, Jr.
Albert N. Kidd
Frederick R. Lummis, Jr.
Burton J. McMurtry
Robert C. McNair
Ralph S. O’Connor
Bob Parks
W. Bernard Pieper
Harry M. Reasoner
Karen Hess Rogers
Jack T. Trotter
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 28–31.

- 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.

### 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

The student Health Service, an outpatient primary care clinic, is located in the Rich Health and Wellness Center in the former Brown College commons. 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 Thanksgiving. 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 2004–2005 is effective from 12:01 A.M., August 15, 2004, until 12:01 A.M., August 15, 2005.

**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)**—Students who have been carefully selected and trained in listening skills and mental-health education serve in this peer
education program 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.

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.
INFORMATION FOR UNDERGRADUATE STUDENTS
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 (BA) and the Bachelor of Science (BS), in a range of majors. The majority of undergraduates earn the BA degree, though students may elect to pursue the BS 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 (BMus/MMus) 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 BA 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 their 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)
• 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 noncredit courses in LPAP. Students with disabilities may make special arrangements to satisfy this requirement.

In order to earn a second degree, students must fulfill the requirements outlined on page 25.

**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.) Interdivisional 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 Course Offerings.

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, biochemistry and cell biology, chemistry, chemical physics, ecology and evolutionary biology, 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 BS 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 (BSChe),
- Computer Science (BSCS),
- Electrical and Computer Engineering (BSEE),
- Materials Science (BSMS),
- Mechanical Engineering (BSME),
- and Bioengineering (BSB)

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 BS 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 BS degree (required courses, prerequisites, and related laboratories included). To earn a BS 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 (BArch) degree requires a fifth year of study and a one-year preceptorship. The Bachelor of Fine Arts (BFA) degree requires a fifth year of concentrated study and advanced courses in addition to the core course requirements. The Bachelor of Music (BMus) 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 24). 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 18–21) 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 BA program (architecture major) before applying to the BArch 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 BArch 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 BA or the BS 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 BA or a Bachelor of Music (BMus) 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 BMus and Master of Music (MMus) degrees after five years of study.

**Wiess School of Natural Sciences**—All natural sciences departments, including biochemistry and cell biology, chemistry, earth science, ecology and evolutionary biology, mathematics, and physics and astronomy offer programs leading to the BA degree. BS 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 18–21).

<table>
<thead>
<tr>
<th><strong>Undergraduate Degree Chart</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School Department</strong></td>
</tr>
<tr>
<td><strong>SCHOOL OF ARCHITECTURE</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>GEORGE R. BROWN SCHOOL OF ENGINEERING</strong></td>
</tr>
<tr>
<td>Bioengineering</td>
</tr>
<tr>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
</tr>
<tr>
<td>Computational and Applied Mathematics</td>
</tr>
<tr>
<td>Computer Science</td>
</tr>
</tbody>
</table>
### School of Engineering

<table>
<thead>
<tr>
<th>Department</th>
<th>Degree(s)</th>
<th>Areas of Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical and Computer Engineering</td>
<td>BA, BSEE</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</td>
<td>BA, BSME, BSMS</td>
<td>Mechanical engineering: areas of concentration and Materials Science 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>BA</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>

### School of Humanities

<table>
<thead>
<tr>
<th>Department</th>
<th>Degree(s)</th>
<th>Areas of Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History</td>
<td>BA</td>
<td>History of art</td>
</tr>
<tr>
<td>Classical Studies</td>
<td>BA</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 BA in major field. See Education Certification</td>
</tr>
<tr>
<td>English</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>French Studies</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>German and Slavic Studies</td>
<td>BA</td>
<td>German and German cultural studies, and Russian/Slavic studies</td>
</tr>
<tr>
<td>Hispanic Studies</td>
<td>BA</td>
<td>Spanish and Latin American literature and Spanish Linguistics</td>
</tr>
<tr>
<td>History</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>Kinesiology</td>
<td>BA</td>
<td>Areas of concentration in exercise science, sports medicine, and sports management</td>
</tr>
<tr>
<td>Linguistics</td>
<td>BA</td>
<td>Areas of concentration in language, cognitive science, second language acquisition, and language, culture, and society</td>
</tr>
<tr>
<td>Philosophy</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>Religious Studies</td>
<td>BA</td>
<td>Areas of concentration in religious traditions and/or methodology</td>
</tr>
<tr>
<td>Visual Arts</td>
<td>BA, BFA</td>
<td>Studio art and special fifth-year courses for BFA candidates</td>
</tr>
</tbody>
</table>

### Jesse H. Jones Graduate School of Management

<table>
<thead>
<tr>
<th>Department</th>
<th>Areas of Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>No undergraduate degree offered</td>
<td>Four accounting courses open to all undergraduate students</td>
</tr>
</tbody>
</table>

### Shepherd School of Music

<table>
<thead>
<tr>
<th>Department</th>
<th>Degree(s)</th>
<th>Areas of Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA, BMus</td>
<td>BA in music; BMus in composition, music history, music theory, and performance; joint BMus/MMus with fifth year of study</td>
<td></td>
</tr>
<tr>
<td><strong>WIESS SCHOOL OF NATURAL SCIENCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td><strong>Biochemistry and Cell Biology</strong></td>
<td>BA, BS</td>
<td>Part of an integrated biosciences curriculum</td>
</tr>
<tr>
<td><strong>Chemistry</strong></td>
<td>BA, BS</td>
<td>Chemical physics major offered jointly with the Department of Physics and Astronomy and resulting in a BS degree</td>
</tr>
<tr>
<td><strong>Ecology and Evolutionary Biology</strong></td>
<td>BA, BS</td>
<td>Part of an integrated biosciences curriculum</td>
</tr>
<tr>
<td><strong>Earth Science</strong></td>
<td>BA, BS</td>
<td>Majors in geology, geophysics, and earth science</td>
</tr>
<tr>
<td><strong>Mathematics</strong></td>
<td>BA</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><strong>Physics and Astronomy</strong></td>
<td>BA, BS</td>
<td>Majors in physics with specific options in applied physics, biophysics, computational physics, astrophysics, and astronomy; interdepartmental major in chemical physics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>SCHOOL OF SOCIAL SCIENCES</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anthropology</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Economics</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Political Science</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Psychology</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Sociology</strong></td>
<td>BA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>INTERDEPARTMENTAL MAJORS</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area Majors</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Ancient Mediterranean Civilizations</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Asian Studies</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Cognitive Sciences</strong></td>
<td>BA</td>
</tr>
<tr>
<td><strong>Education Certification</strong></td>
<td>No undergraduate degree offered</td>
</tr>
<tr>
<td><strong>Managerial Studies</strong></td>
<td>BA</td>
</tr>
</tbody>
</table>
INFORMATION FOR UNDERGRADUATE STUDENTS

Medieval Studies  
BA  
History of art, classics, English, French, German, history, humanities, linguistics, Spanish, music, philosophy, political science, and religious studies

Policy Studies  
BA  
Environmental policy, government policy and management, healthcare management, international affairs, law and justice, business policy and management, and urban and social change

Study of Women and Gender  
BA  
Anthropology, classics, English, French studies, German, Spanish, history, humanities, economics, political science, linguistics, music, psychology, philosophy, religious studies, and sociology

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. Student registration is prioritized based on the hours
earned and in progress. Entering students complete their registration during Orientation Week before classes begin in August. Undergraduate students are required to obtain a Registration/Add/Drop PIN in order to register for classes. To receive this PIN students must meet with their divisional or major advisor to discuss their courses for the upcoming semester. The first Registration/Add/Drop PIN for each semester is valid from the registration period through the end of the second week of classes. The second Registration/Add/Drop for each semester will be valid from the beginning of the third week of classes through the drop deadline. Registration/Add/Drop PIN validity dates can be found in the Academic Calendar.

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 by the deadline in the Academic Calendar (pages viii–xiv) 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 or drop courses without penalty. 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 have a valid Registration/Add/Drop PIN to add a course in the third or fourth week of classes (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 a valid Registration/Add/Drop PIN (a fee will be assessed as described on the following pages)

**All other students:**
- Must obtain instructor’s permission and have a valid Registration/Add/Drop PIN to add a course in the third or fourth week of classes (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 week up to the end of the tenth week of classes with a valid Registration/Add/Drop PIN required (a fee will be assessed as described below)
• 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:*

<table>
<thead>
<tr>
<th>Weeks 3–4</th>
<th>$10</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Week 5</td>
<td>$50</td>
</tr>
</tbody>
</table>

Schedule of drop fees for undergraduate students in their first semester at Rice:*

<table>
<thead>
<tr>
<th>Weeks 1–4</th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks 5–14</td>
<td>$10</td>
</tr>
</tbody>
</table>

Schedule of drop fees for all other students:*

<table>
<thead>
<tr>
<th>Weeks 1–4</th>
<th>$0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weeks 5–10</td>
<td>$10</td>
</tr>
</tbody>
</table>

*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. On the Official transcript, a repeated course is indicated by one of the following values::

| I | Included in GPA and earned hours |
| A | Include in GPA, but exclude from earned hours |

**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 to complete the major 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 BA degree may pursue course work leading to the BS or BMus 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 complete an application for a second degree with the office of 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 an outline 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 complete an application for a second degree with the office of 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 41). 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.
INFORMATION FOR UNDERGRADUATE STUDENTS

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 during the final degree audit 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. Completion of the English composition requirement is denoted by a grade of E.

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.

OT (“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 Withdrawal 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 average, 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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade Points</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

**F** 0.00

**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, or
- 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:

- They earn grades that will place them on academic probation a third time, or
- They 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, in any succeeding semester, if:

- Their cumulative grade point average is less than 1.67, or
- Their semester grade point average is less than 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.

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 must include two supporting letters from persons for whom the student has worked during the suspension period as a student or an employee. The petition must also include an academic program approved by the Office of Academic Advising. If the problems causing the previous difficulty appear to be resolved, the student generally is readmitted. Students returning from academic suspension must maintain regular contact with the Office of Academic Advising 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. 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. Students who fail to give notice of withdrawal should expect to receive failing grades.

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. That application must include an academic program approved by the Office of Academic Advising. 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. The petition should include two supporting letters and must also include an academic plan approved by the Office of Academic Advising. If students withdraw within five weeks of the last day of classes, the Committee on Examinations and Standing takes into account their grades (which reflects 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. If students voluntarily withdraw for major medical or psychological/psychiatric reasons, however, they must meet the readmission conditions for a medical or involuntary withdrawal.

**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 which is likely to be exacerbated by the academic and/or living environment and the student’s ability to address it effectively
• 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 medical or involuntary withdrawal to the vice president for Student Affairs. This petition must include documentation of treatment provided and students must have an interview with the director of the Rice Counselling Center or Student Health Services or their designees. The petition must also include an academic plan approved by the office of Academic Advising.

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.

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 for Student Affairs.

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 must notify the vice president for student affairs at least one month before the beginning of the semester that they intend to end their leave. The student must also include an academic plan approved by the office of Academic Advising. After a leave of more than four semesters, they should apply in writing to the Committee on Examinations and Standing.

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 $10 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.

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, telephone number(s), and email address(es)
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  
1/2 Time .................... 6 Credits  
3/4 Time ................. 9 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.

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 76–77). 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

Dating back to the founding of Rice University, our first president, Edgar Odell Lovett, mandated that we aspire to be a world-class university of the highest standing. Dr. Lovett challenged us “to assign no upper limit to our educational endeavor.” He envisioned students and faculty as a community of scholars, their minds exercised by spirited discourse (John Boles, A University So Conceived: A Brief History of Rice, pp 22–23, rev. ed. 1997). Therefore, as an integral part of the University’s mission, we seek a broadly diverse student body where educational diversity increases the intellectual vitality of education, scholarship, service, and communal life at Rice. We seek students, both undergraduate and graduate students, of keen intellect and diverse backgrounds who not only show potential for success at Rice, but who will contribute to the educational environment of those around them. Rice determines which group of applicants, considered individually and collectively, will take fullest
advantage of what we have to offer, contribute most to the educational process at Rice, and be most successful in their chosen fields and in society in general. Our evaluation 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. An applicant is considered in competition with all other applicants. In making a decision to admit or award financial aid, we are careful not to ascribe too much value to any single metric, such as rank in class, grade-point average, the SAT/ACT or Graduate Record Exam.

We use a broader perspective that includes such qualitative factors as the overall strength and competitive ranking of a student’s prior institution, the rigor of his or her particular course of study, letters of recommendation, essays, responses to application questions, and (where required) auditions and portfolios. Taken together with a student’s academic record and test scores, these additional factors provide a sound basis to begin assessing the applicant’s potential on all levels.

Beyond indicators of academic competence, we look for other qualities among applicants such as creativity, motivations, artistic talent, and leadership potential. We believe that students who possess these attributes in combination with strong academic potential will contribute to and benefit from, a more vibrant, diverse educational atmosphere. Through their contributions and interactions with others, students will enrich the educational experience of all faculty and students. These qualities are not revealed in numerical measurements, but are manifest in the breadth of interests and the balance of activities in their lives.

Rice University strives to create on its campus a rich learning environment in which all students will meet individuals whose interests, talents, life-experience, beliefs, 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 through its admissions policies to bring bright and promising students to the University from a range of socioeconomic, cultural, geographic and other backgrounds. We consider an applicant’s race or ethnicity as a factor in the admission process and believe that racial and ethnic diversity is an important element of overall educational diversity. Though race or ethnicity is never the defining factor in an application or admissions decision, we do seek to enroll students from underrepresented groups in sufficient and meaningful numbers as to prevent their isolation and allow their diverse voices to be heard. We also 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, regardless of their races or ethnicities, 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, inter-cultural interactions among 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 student, it 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, a prolonged, in-depth engagement in a school project, or a particularly creative and wide-ranging set of extracurricular activities.

Rice does not view offers of admission as entitlements based on grades and test scores. Our admission process combines an examination of academic ability with a flexible assessment of an applicant’s talents, experiences and potential, including potential diversity contributions; it 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. Rice is a highly selective institution, and receives many more applications from viable candidates than it has available spaces. An inevitable consequence of Rice’s approach is that some highly accomplished students will not be admitted. However, by selecting a wide range of matriculants of all types, the admissions process seeks to enrich the learning environment at Rice, and thus improve the quality 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
- Laboratory science (e.g., biology, chemistry, physics) 2
- Social studies 2
- A foreign language 2
- Mathematics 3
- 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 $50. 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 university websites or the application packet, or call the admission office for details.

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 3. 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 the CSS PROFILE by visiting their website at www.collegeboard.com. Students will 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 2004 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 deadline must do so in full knowledge that they are in a less competitive position. Regular Decision applicants must complete their standardized tests by February.

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

Bachelor of Fine Arts

Students with a bachelor’s degree in art from Rice or an equivalent degree from another university may apply to enter the BFA program, which consists of a fifth year of intensive study in the creative arts. In exceptional cases, students with a BA in a major other than art may be admitted. BFA students are considered on a space-available basis. The following items should be received by November 1 for spring term enrollment or May 1 for fall term enrollment.

Required application materials include:
- A $50 application fee
- Official transcripts of all undergraduate and graduate work
- Official final high school transcript
- Two letters of recommendation from professors at the most recent college attended
- Dean of students recommendation from the most recent college attended
- SAT I or ACT scores
- The complete application for bachelor of fine arts degree candidates
- Portfolio of artwork

The portfolio of artwork must include 15 slides of original paintings, drawings, sculpture, and prints, and/or film/video. Submission is limited to a binder or folder no larger that 9” x 12” x .5” or placed in a standard-view sleeve 20 slide capacity. Slides of artwork should be properly labeled (at the top of the individual slide) with name, title, medium, dimensions, and date(s), and submitted in clear plastic. Do not submit anything you wish returned.

All BFA students attending Rice are full-time students; most classes are held Monday through Friday. Financial aid and campus housing are not available for BFA students.

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 $50 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 May 15 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 March 15 for fall application and October 15 for spring application. The SAT II is not required.

Students for whom the $50 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 complete the International Baccalaureate diploma and receive a score of 6 or 7 on a higher-level IB 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, BFA, 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 $50 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 $50 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 $50, 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 $848 per semester hour plus a $110 registration fee, the total not to exceed $10,175. 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 2004–2005 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 $275 per course per semester. All others are charged $545 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 2004–2005 school year:

<table>
<thead>
<tr>
<th>Tuition</th>
<th>Annual</th>
<th>Semester</th>
<th>Hour³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering first-year and transfer students</td>
<td>$20,350</td>
<td>$10,175</td>
<td>$848</td>
</tr>
<tr>
<td>Students matriculating in 2003–2004¹</td>
<td>19,200</td>
<td>9,600</td>
<td>800</td>
</tr>
<tr>
<td>Students matriculating in 2002–2003¹</td>
<td>18,300</td>
<td>9,150</td>
<td>763</td>
</tr>
<tr>
<td>Students matriculating in 2001–2002¹</td>
<td>17,600</td>
<td>8,800</td>
<td>734</td>
</tr>
<tr>
<td>Students matriculating in 2000–2001²</td>
<td>17,500</td>
<td>8,750</td>
<td>730</td>
</tr>
<tr>
<td>Students matriculating in 1999–2000²</td>
<td>17,250</td>
<td>8,625</td>
<td>720</td>
</tr>
</tbody>
</table>

¹ Tuition indexed for five years from year of matriculation
² Tuition indexed for six years from year of matriculation
³ By special permission only

<table>
<thead>
<tr>
<th>Required Fees</th>
<th>Fall</th>
<th>Spring</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student activities⁴</td>
<td>$ 86.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic events</td>
<td>110.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>50.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student health</td>
<td>170.00</td>
<td>$170.00</td>
<td></td>
</tr>
<tr>
<td>Shuttle</td>
<td>50.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information technology (on-campus)</td>
<td>110.00</td>
<td>110.00</td>
<td></td>
</tr>
<tr>
<td><strong>Total fees</strong></td>
<td><strong>$576.30</strong></td>
<td><strong>$280.00</strong></td>
<td><strong>$856.30</strong></td>
</tr>
<tr>
<td>Information technology (off-campus)</td>
<td>$ 60.00</td>
<td>$ 60.00</td>
<td></td>
</tr>
<tr>
<td>Newspaper</td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

⁴ 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.

<table>
<thead>
<tr>
<th>Room and Board</th>
<th>Annual</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>$5,200.00</td>
<td>$2,600.00</td>
</tr>
<tr>
<td>Board</td>
<td>3,180.00</td>
<td>1,590.00</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>142.00</td>
<td>71.00</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. Indexing does not apply to classes entering after spring 2003.

**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
INFORMATION FOR UNDERGRADUATE STUDENTS

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 page 46) 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 2004–2005, the annual room and board charge for residence in a residential college is $8,380. 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 21–24).

<table>
<thead>
<tr>
<th>Charge</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptorship per semester</td>
<td>$200</td>
</tr>
<tr>
<td>Internship per semester</td>
<td>$200</td>
</tr>
<tr>
<td>Enrollment continuance fee (Study Abroad) per semester</td>
<td>$125</td>
</tr>
<tr>
<td>Newspaper fee</td>
<td>$0.9</td>
</tr>
<tr>
<td>Telecommunications fee (on-campus students) per semester</td>
<td>$71</td>
</tr>
<tr>
<td>Late payment penalty</td>
<td>$135</td>
</tr>
<tr>
<td>Undergraduate application fee</td>
<td>$50</td>
</tr>
<tr>
<td>Part-time registration fee</td>
<td>$110</td>
</tr>
<tr>
<td>Orientation Week room and board</td>
<td>$225</td>
</tr>
<tr>
<td>Orientation Week room and board (coordinators)</td>
<td>$165</td>
</tr>
<tr>
<td>Late registration fee</td>
<td>$105</td>
</tr>
<tr>
<td>Failure to register fee</td>
<td>$55</td>
</tr>
<tr>
<td>Deferred payment plan late fee</td>
<td>$35</td>
</tr>
<tr>
<td>College withdrawal: suspension</td>
<td>$100</td>
</tr>
<tr>
<td>College withdrawal: breaking of lease</td>
<td>$700</td>
</tr>
<tr>
<td>Diploma fee: sheepskin</td>
<td>$100</td>
</tr>
<tr>
<td>Diploma fee: parchment</td>
<td>$35</td>
</tr>
<tr>
<td>Diploma fee: facsimile</td>
<td>$15</td>
</tr>
<tr>
<td>Diploma mailing fee: domestic</td>
<td>$22</td>
</tr>
<tr>
<td>Diploma mailing fee: air mail</td>
<td>$27</td>
</tr>
<tr>
<td>Transcript fee</td>
<td>$10</td>
</tr>
<tr>
<td>Replacement ID</td>
<td>$10</td>
</tr>
<tr>
<td>Freshman parking permit (minimum)</td>
<td>$275</td>
</tr>
</tbody>
</table>

**Health Insurance**
All Rice students must have health insurance. Students may purchase insurance for the 2004–2005 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, 2004, until 12:01 A.M., August 15, 2005. 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](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 $200 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 $10 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 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 grant, 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 demonstrate no need.

The university determines need for first-time students by having them complete the College Scholarship Service (CSS) PROFILE. Students register for CSS PROFILE by visiting their website at www.collegeboard.com. Students will 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 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 basic 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.

**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 demonstrated 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 files are 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 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 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 aid 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**

**Need-Based Scholarships/Grants**—Various need-based scholarships and grants are awarded to assist students with demonstrated need.

**Merit Scholarship**—Merit Scholarships are offered through the Office of Admissions to incoming students. Merit scholarships may only be used for coursework sponsored by Rice University. Should a student with a merit award graduate early, unexpended merit funds will not be granted to the student.

**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**—These are low-interest loans made to students attending school on at least a half-time basis and who demonstrate high need.

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 requests 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.

**Summer Aid**—Students who have not exceeded 10 semesters at Rice are eligible to apply for summer aid. The only aid available during the summer session are loans. The deadline to apply for summer aid is April 30.

**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 deformities, 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/private 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 apply for federal/state/private 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 aid is available.

**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 in one term with a 1.67 term GPA (or 2.0 GPA at a school without weighted grades) 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 (Rice chapter: 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 page 44.
**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/.
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 (PhD), Doctor of Architecture (DArch), Master of Arts (MA), and Master of Science (MS).

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 61–62 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.

Admittance to a Rice University graduate-degree program, with the exception of those in the School of Music, requires a baccalaureate degree or its equivalent as determined by the Office of Graduate Studies. For the Shepard School of Music, the equivalent to the baccalaureate degree will be determined by their graduate committee.

Applicants for admission to graduate study should either contact 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 68–71) 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 admitting department.

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 62–63). Specific requirements for advanced research degrees in each field of study appear in the appropriate departmental pages (pages 80–257). Students seeking additional material should contact the appropriate department (see Department Information Chart on pages 68–71).

**PhD Programs**—The PhD degree is awarded for original studies in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 61–62); in architecture, the equivalent degree is the DArch. Candidates receive a PhD 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 64–66.) The residency requirement for the doctorate is four semesters of full-time study at the university.

**Master’s Programs**—The MA degree is available in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 61–62), including certain scientific fields of study. The MS degree is offered in the engineering and science fields also listed in the chart. Candidates may undertake the MArch, MArch in Urban Design, and MMus 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 \textit{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 64–66.)

**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 56) appear in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 58–62). 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 DMA 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 58–61). Program information and application materials are also available from the departments (see Department Information Chart on pages 68–71). For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 62–63).

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.

<table>
<thead>
<tr>
<th>School Department</th>
<th>Graduate Degree Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>School of Architecture</strong></td>
<td>MArch, MArch in Urban Design, DArch</td>
<td></td>
</tr>
<tr>
<td><strong>George R. Brown School of Engineering</strong></td>
<td>Bioengineering</td>
<td>MS, PhD Biochemical engineering, biological systems modeling, biomaterials, biomedical lasers, cellular and molecular</td>
</tr>
</tbody>
</table>
### (Bioengineering continued)

<table>
<thead>
<tr>
<th>Department</th>
<th>Degree(s)</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemical Engineering</strong></td>
<td>MChE, MS, PhD</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><strong>Civil and Environmental Engineering</strong></td>
<td>MCE, MEE, MES, MS, PhD</td>
<td>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>
</tr>
<tr>
<td><strong>Computational and Applied Mathematics</strong></td>
<td>MCAM, MCSE, MA, PhD</td>
<td>Numerical analysis, operations research, and differential equations; additional program in computational science and engineering (see Interdepartmental and Cooperative Programs)</td>
</tr>
<tr>
<td><strong>Computer Science</strong></td>
<td>MCS, MS, PhD</td>
<td>Algorithms and complexity, artificial intelligence and robotics, bioinformatics, compilers, distributed and parallel computation, graphics and visualization, operating systems, and programming languages</td>
</tr>
<tr>
<td><strong>Electrical and Computer Engineering</strong></td>
<td>MEE, MS, PhD</td>
<td>Bioengineering, communication and signal processing, computer architecture and networking, electro-optics, and device physics</td>
</tr>
<tr>
<td><strong>Mechanical Engineering and Materials Science</strong></td>
<td>MME, MMS, MS, PhD</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><strong>Statistics</strong></td>
<td>MStat, MA, PhD</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>
</tbody>
</table>

#### SCHOOL OF HUMANITIES

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Degree(s)</th>
<th>Focus Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>MA, PhD</td>
<td>British and American literature and literary theory</td>
</tr>
<tr>
<td><strong>French Studies</strong></td>
<td>MA, PhD</td>
<td>French literature, language, and culture</td>
</tr>
<tr>
<td><strong>Hispanic Studies</strong></td>
<td>MA</td>
<td>Spanish and Latin American Literature and Spanish Linguistics</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>MA, PhD</td>
<td>U.S., European, and other history</td>
</tr>
<tr>
<td><strong>Linguistics</strong></td>
<td>MA, PhD</td>
<td>Anthropological, applied, cognitive, field, functional or discourse, and English, German, or Romance linguistics; second language acquisition; language typology and universals, sociolinguistic, phonetics, phonology, and speech technology</td>
</tr>
<tr>
<td>Subject</td>
<td>Level</td>
<td>Specialization</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Philosophy</td>
<td>MA, PhD</td>
<td>Specialization in medical ethics</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>MA, PhD</td>
<td>Religion and contemporary cultures; scriptural interpretation; ethics and philosophy of religion; mysticism, psychology, and religious practices</td>
</tr>
<tr>
<td><strong>Jesse H. Jones Graduate School of Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MBA, MBA/MD, MBA/MD (with Baylor College of Medicine)</td>
<td>MBA 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>
<td></td>
</tr>
<tr>
<td><strong>Shepherd School of Music</strong></td>
<td>BMus/MMus, MMus, DMA</td>
<td>Composition, choral and instrumental conducting, historical musicology, performance, and music theory</td>
</tr>
<tr>
<td><strong>Wiess School of Natural Sciences</strong></td>
<td></td>
<td>Composition and selected areas of performance</td>
</tr>
<tr>
<td>Biochemistry and Cell Biology</td>
<td>MA, PhD</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>Chemistry</td>
<td>MA, PhD</td>
<td>Organic chemistry, inorganic chemistry, physical chemistry, nanotechnology, biological chemistry, theoretical and computational chemistry, materials chemistry, bio-organic chemistry, and bio-inorganic chemistry</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology</td>
<td>MA, PhD</td>
<td>Plant community and population ecology, insect diversity and community structure, behavioral ecology, sociobiology, and molecular evolution</td>
</tr>
<tr>
<td>Earth Science</td>
<td>MA, PhD</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>Mathematics</td>
<td>MA, PhD</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>Physics and Astronomy</td>
<td>MST, MS, PhD</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><strong>School of Social Sciences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>MA, PhD</td>
<td>Archaeology and social/cultural anthropology</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.

**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><strong>INTERDEPARTMENTAL PROGRAMS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applied Physics</td>
<td>Master's, PhD</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, PhD</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, or <a href="mailto:caam@caam.rice.edu">caam@caam.rice.edu</a>.</td>
</tr>
<tr>
<td>Education Certification</td>
<td>MAT</td>
<td>Secondary teaching certification in conjunction with BA in major field.</td>
</tr>
<tr>
<td>Environmental Analysis and Decision Making</td>
<td>MS</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, PhD</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>
<tr>
<td>Nanoscale Physics</td>
<td>MS</td>
<td>Departments in physics and astronomy, electrical and computer engineering, chemistry, 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>
</tbody>
</table>
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. PhD 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—PhD students are required to complete their program, including thesis defense, within ten years of initial enrollment in the degree program. Masters 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—PhD 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**—PhD 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 PhD 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–xiv).

**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 67).

**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. Courses with a grade of S will count towards total credits earned.

**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 66) 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 PhD 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 PhD and MA/MS 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. PhD 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 Graduate Students Thesis Defense Announcement form. (Specific instructions 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.) An automatically generated e-mail will be sent to Rice News with the information for the Rice News calendar once the defense form has been submitted.

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. PhD candidates therefore should begin scheduling their oral defenses at least three weeks in advance.

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 and a copy sent to the Office of Graduate Studies.

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.

PhD 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 PhD, DArch, or DMA 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–xiv).

**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.

**Short Term Medical and Parental Leave**—If a graduate student cannot fulfill the duties of his or her appointment due to a medical emergency or the adoption or birth of a child, enrollment and stipend support may be continued for up to six weeks or until the appointment expires (which ever occurs first). Complete guidelines for obtaining a short term or parental leave are available at: http://rgs.rice.edu/Grad/Policies/med-mat-leave.cfm

**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 44–45). 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 23).

**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 fax: 713-348-5277 <a href="mailto:arch@rice.edu">arch@rice.edu</a></td>
<td>Architecture design, urbanism, theory, and practice</td>
</tr>
<tr>
<td>John J. Cashbarian (Associate Dean)</td>
<td>713-348-5152</td>
<td><a href="http://www.arch.rice.edu/flash/">www.arch.rice.edu/flash/</a></td>
</tr>
<tr>
<td><strong>George R. Brown School of Engineering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioengineering: David Hellums</td>
<td>713-348-5869 fax:713-348-5877 <a href="mailto:bioeng@rice.edu">bioeng@rice.edu</a> dacnet.rice.edu/~bioe/</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>Chemical Engineering: Kyriacos Zygourakis</td>
<td>713-348-4902 fax:713-348-5478 <a href="mailto:cem@rice.edu">cem@rice.edu</a> <a href="http://www.ruf.rice.edu/~che/">www.ruf.rice.edu/~che/</a></td>
<td>Transport and interfacial phenomena, thermodynamics, catalysis and reactor design,</td>
</tr>
<tr>
<td>INFORMATION FOR GRADUATE STUDENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chemical Engineering continued</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Civil and Environmental Engineering: Herb Ward</th>
</tr>
</thead>
<tbody>
<tr>
<td>713-348-4949 fax: 713-348-5268 <a href="mailto:civi@rice.edu">civi@rice.edu</a> <a href="http://www.ruf.rice.edu/~ceedep/">www.ruf.rice.edu/~ceedep/</a></td>
</tr>
<tr>
<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 Surface and groundwater hydrology, biochemical process engineering, aquatic chemistry, environmental microbiology, physical-chemical processes, membrane processes, colloid chemistry, GIS and contaminant transport modeling, urban and regional air quality, earth systems, and environmental law</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Computational and Applied Mathematics: Bill Symes</th>
</tr>
</thead>
<tbody>
<tr>
<td>713-348-4805 fax: 713-348-5318 <a href="mailto:caam@rice.edu">caam@rice.edu</a> <a href="http://www.caam.rice.edu/">www.caam.rice.edu/</a></td>
</tr>
<tr>
<td>Operations research, mathematical programming, discrete and continuous optimization, numerical liner algebra, inverse problems, computational seismology, optimal design, partial differential equations, and numerical analysis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Computer Science: Keith Cooper</th>
</tr>
</thead>
<tbody>
<tr>
<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>
</tr>
<tr>
<td>Algorithms and complexity, artificial intelligence and robotics, compilers, distributed and parallel computation, graphics and visualization operating systems and programming languages</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical and Computer Engineering: Behnaam Aazhang</th>
</tr>
</thead>
<tbody>
<tr>
<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>
</tr>
<tr>
<td>Bioengineering, communications and signal processing, computer architecture and networking electro-optics, and device physics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical Engineering and Materials Science: Enrique V. Barrera</th>
</tr>
</thead>
<tbody>
<tr>
<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>
</tr>
<tr>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistics: Katherine B. Ensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>713-348-4032 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>
</tr>
<tr>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SCHOOL OF HUMANITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education:</strong></td>
</tr>
<tr>
<td>713-348-4826 <a href="http://www.dacnet.rice.edu/Depts/Education/">www.dacnet.rice.edu/Depts/Education/</a></td>
</tr>
<tr>
<td>Secondary education (See Education Certification below)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>English: Susan Wood</th>
</tr>
</thead>
<tbody>
<tr>
<td>713-348-4840 fax: 713-348-5991 <a href="mailto:engl@rice.edu">engl@rice.edu</a> english.rice.edu/</td>
</tr>
<tr>
<td>Medieval through 20th-century English literature, American literature, and theoretical bases of literary criticism and genre theory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>French Studies: Michel Achard</th>
</tr>
</thead>
<tbody>
<tr>
<td>713-348-4851 fax: 713-348-5951 <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>
</tr>
<tr>
<td>Medieval through contemporary literature, French literary theory, philosophy, and French cultural history</td>
</tr>
</tbody>
</table>
Hispanic Studies: Maarten Van Delden  
713-348-5451 fax: 713-348-4865  
span@rice.edu  
hispanicstudies.rice.edu  
Medieval, golden age, and modern peninsular Spanish literature, modern Spanish American literature, Hispanic linguistics, second language acquisition, and semiotics and literary theory

History: Peter Carl Caldwell  
713-348-4948 fax: 713-348-5207 hist@rice.edu  
history.rice.edu/  
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

Linguistics: Masayoshi Shibatani  
713-348-6010 fax: 713-348-4718  
ling@ruf.rice.edu  
linguistics.rice.edu/  
General and cognitive-functional linguistics, syntax and semantics, discourse analysis, typology, language description and change, and computational linguistics

Philosophy: Steven Crowell  
713-348-4994 philos@rice.edu  
philosophy.rice.edu  
History of philosophy, metaphysics, ethics, medical ethics, social and political philosophy, and philosophy of law, language, and science

Religious Studies: Jeffrey Kripal  
713-348-5201 fax: 713-348-5486  
reli@rice.edu  
reli.rice.edu/  
Theological and medical ethics, New Testament and early Christianity, Indo-Tibetan thought and practice, history of Christianity, contemporary continental philosophy of religion, and psychology of religion, Judaism, and Islam

**Jesse H. Jones Graduate School of Management**

Gilbert R. Whitaker, Jr. (Dean)  
713-348-4838 fax: 713-348-5251  
ricemb@rice.edu  
jonesgsm.rice.edu/  
Earnings management, change communication, financial reporting, accounting standard setting 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

George Kanatas (Associate Dean)  
713-348-5396 fax: 713-348-5102

Wilfred C. Uecker (Associate Dean)  
713-348-6060 fax: 713-348-5131  
oed@rice.edu

**Shepherd School of Music**

Robert Yekovich (Dean)  
713-348-4854 fax: 713-348-5317  
musi@rice.edu  
www.ruf.rice.edu/~musi/  
Orchestral studies, performance, conducting, composition, theory, and music history

**Weiss School of Natural Sciences**

Biochemistry and Cell Biology: George Bennett  
713-348-4015 fax: 713-348-5154  
biec@rice.edu  
dacnet.rice.edu/~biec/  
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

Chemistry: Kenton H. Whitmire  
713-348-5650 fax: 713-348-5155  
chem@rice.edu  
www.chem.rice.edu/  
Synthesis and biosynthesis of organic natural products, synthesis of small cycloalkanes, molecular recognition and biological catalysis, bioinorganic and organometallic chemistry, main group element and transition metal chemistry, high-pressure and high-temperature chemistry, fluorine chemistry, chemical vapor deposition, design of nanoparticle solids, molecular photo-chemistry and photophysics, infrared kinetic spectroscopy,
(Chemistry continued)  
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.

<table>
<thead>
<tr>
<th>Department</th>
<th>Contact Information</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology and Evolutionary Biology</td>
<td>Joan Strassmann 713-348-4919 fax: 713-348-5232 <a href="mailto:eeb@rice.edu">eeb@rice.edu</a> eeb.rice.edu/</td>
<td>Plant community and population ecology, behavioral ecology, sociobiology, molecular evolution, insect diversity, and community structure</td>
</tr>
<tr>
<td>Earth Science: Alan Levander</td>
<td>713-348-4880 fax: 713-348-5214 <a href="mailto:geol@rice.edu">geol@rice.edu</a> earthscience.rice.edu/</td>
<td>Marine geology and geophysics; sedimentology, stratigraphy, paleoceanography, palaeoclimatology; evolution of continental margins and carbonate platforms; tectonics, neotectonics, tectonophysics, geodynamics, mantle processes, planetetology, 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>Mathematics: Robin Forman</td>
<td>713-348-4829 fax: 713-348-5231 <a href="mailto:math@rice.edu">math@rice.edu</a> math.rice.edu/</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>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>
</tbody>
</table>

**School of Social Sciences**

<table>
<thead>
<tr>
<th>Department</th>
<th>Contact Information</th>
<th>Research Areas</th>
</tr>
</thead>
<tbody>
<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 chang</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>

**Education Certification**

<table>
<thead>
<tr>
<th>Name</th>
<th>Contact Information</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meredith Skura</td>
<td>713-348-4826 Fax: 713-348-5459 <a href="mailto:educ@rice.edu">educ@rice.edu</a> education.rice.edu/</td>
<td>Secondary Education</td>
</tr>
</tbody>
</table>
TUITION, FEES, AND EXPENSES

The tuition and fees for graduate students in this section are for the 2004–2005 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></th>
<th>Annual</th>
<th>Semester</th>
<th>Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tuition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All schools except Jones School</td>
<td>21,200</td>
<td>10,600</td>
<td>1,178</td>
</tr>
<tr>
<td>Jones School MBA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start 2004</td>
<td>30,000</td>
<td>15,000</td>
<td>1,667</td>
</tr>
<tr>
<td>Start 2003</td>
<td>28,000</td>
<td>14,000</td>
<td>1,556</td>
</tr>
<tr>
<td>Jones School EMBA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start 2004 (2-year rate)</td>
<td>77,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start 2003 (2-year rate)</td>
<td>72,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fees</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health service</td>
<td>340</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>Graduate Student Association</td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Shuttle</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honor Council</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Organizations Fund</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information technology</td>
<td>120</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Jones School activities (Jones School only)</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jones School materials (Jones School only)</td>
<td>600</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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 $1,178 per year ($589 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 generally 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 76).

**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 $135 will be assessed.

Other fees applicable under special circumstances:

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptorship (per semester)</td>
<td>$200</td>
</tr>
<tr>
<td>Internship (per semester)</td>
<td>200</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: MBA</td>
<td>100</td>
</tr>
<tr>
<td>Jones School application fee: EMBA</td>
<td>100</td>
</tr>
<tr>
<td>Part-time registration fee</td>
<td>110</td>
</tr>
<tr>
<td>Late registration fee</td>
<td>105</td>
</tr>
<tr>
<td>Failure to preregister fee</td>
<td>55</td>
</tr>
</tbody>
</table>
Late course change fee

Adds:

<table>
<thead>
<tr>
<th>Week</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–2</td>
<td>Free</td>
</tr>
<tr>
<td>3–4</td>
<td>$10</td>
</tr>
<tr>
<td>5 and after</td>
<td>50</td>
</tr>
</tbody>
</table>

Drops:

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1–4</td>
<td>Free</td>
</tr>
<tr>
<td>5–10</td>
<td>10</td>
</tr>
<tr>
<td>11 and after</td>
<td>50</td>
</tr>
</tbody>
</table>

Deferred Payment Plan late fee ........................................... 35
Diploma fee: sheepskin ..................................................... 100
Diploma fee: parchment ................................................... 35
Diploma fee: facsimile ..................................................... 15
Diploma mailing fee: domestic ............................................ 22
Diploma mailing fee: air mail ............................................. 27
Transcript fee .............................................................. 10
Class III registration fee ................................................. 110
Class III late application fee ........................................... 75
Class III late registration fee .......................................... 105
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 44–45).

For $110 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 involed.
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 and submit copies of income tax returns and W-2’s. The priority deadline to apply is April 15.

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 may be available 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.

**Summer Aid**—Graduate students are eligible to apply for summer loans if they are registered during the summer term. The deadline to apply for summer aid is April 30.

**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 11–12). 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 2004–2005 academic year is effective from 12:01 A.M., August 15, 2004, until 12:01 A.M., August 15, 2005. 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 page 36).

**Tuition and Fees for Class III**

The tuition for 2004–2005 is $1,178 per semester hour, plus a $110 registration fee each semester. All fees are payable during registration. Students failing to submit their applications by the deadline must pay a late application fee of $75, and students registering after the second week of class must pay a $105 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 page 36 for information pertaining to summer school.
The Air Force ROTC program develops responsible, competent men and women prepared to assume leadership positions as commissioned officers in the active duty United States Air Force. Upon completion of the curriculum, students will have an understanding of the core values and the professional discipline of a military career. For more information on the Air Force Science program, contact the Air Force Science Department at the University of Houston by calling 713-743-4932.

**Course Credit**

ROTC classes may be taken for elective credit toward any degree plan at the University of Houston as well as Rice University. Freshman and sophomore level classes are open to all students. 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 General Military Course (GMC) is the first half of the Four-Year Program and is taken during the freshman and sophomore years. This program allows the student to try out Air Force ROTC without obligation (unless the student is on an Air Force ROTC scholarship).

During the first two years, the student will learn about the Air Force and the historical development of aerospace power.

During the summer preceding the junior year, the student will compete for the opportunity to attend a four-week Field Training Unit. Successful completion of field training is mandatory for entrance into the Professional Officer Course (POC), the junior and senior years of the Four-Year Program.

As a junior, the student will study the leadership and management techniques needed to become an effective Air Force officer.

During the senior year, students study the national security policy process and regional issues while preparing for entrance to active duty.

Enrollment in the POC is open to graduate students if they have four semesters of school remaining. Each semester of the POC consists of three classroom hours of instruction as well as Leadership Laboratory each week.

**Two-Year Program**

The two-year program bypasses the General Military Course (GMC) portion of the Four-Year Program and leads directly into the Professional Officer Course (POC).

This route is the best option for junior college transfer students, current college sophomores, college juniors and active duty personnel who have two years of school remaining. The student can be completing an undergraduate degree, a graduate degree, or a combination of the two. Requirements for POC include:
1. Attending an extended Field Training Unit the summer prior to entering the
two year program or the summer between the junior and senior year
2. Achieving an acceptable score on the Air Force Officer Qualifying Test
   (AFOQT)
3. Passing a complete medical physical
4. Passing the Air Force Physical Fitness Test (PFT)

Students entering the POC must enter into a contract to pursue and accept a regular
commission in the active Air Force.

**LEADERSHIP LABORATORY**

As an Air Force ROTC cadet, each student will be required to attend an additional
class known as Leadership Laboratory.

Although it is not part of the academic class requirement, it is an essential part of
officer training. Leadership Laboratory is a motivational, cadet-centered program
where the student gains valuable leadership and managerial experience while
learning about the Air Force way of life. On occasion, the student will have the op-
portunity to hear guest speakers discuss a variety of interesting topics.

**AFROTC SCHOLARSHIP OPPORTUNITIES**

Air Force ROTC offers four different scholarship opportunities for students at the
University of Houston and Rice University:

**In-College Scholarship Program (ICSP)**—is a highly competitive scholarship
program aimed primarily at college freshmen and sophomores in any major (students
with a bachelor's degree can compete to earn a master's degree). The ICSP awards
cover tuition capped at either $15,000 per year plus $510 per year for books or
$9,000 per year plus $510 per year for books.

**The Express Scholarship Program**—is operated on a fully qualified basis: those
who meet the qualifications are awarded the scholarship. Though the list of eligible
college majors differs from year to year, the express scholarship pays up to $15,000
tuition per year and $510 for books. The processing of the scholarship award is
completed at the local detachment.

**General Military Course Incentive (POCI)**—is a fully qualified scholarship
program open to college students in the spring semester of their sophomore year.
This program is open to students in any major. The GMCI provides up to $1,500 in
tuition and fees for eligible students. The GMCI does not pay for books.

**Professional Officer Course Incentive (POCI)**—is a fully qualified scholarship
program open to college students in their junior or senior year (or to those with a
bachelor's degree who will pursue a master's degree). POCI is open to any major.
The POCI provides up to $3,000 in tuition and fees each year and $450 per year
for books. POCI may be paid for up to two years.

**Stipend**

All AFROTC scholarship recipients and POC cadets receive a nontaxable monthly
stipend. The annual stipend amount ranges from around $2,000 per year to 4,000
per year depending on the recipient's enrollment year.

For additional information on AFROTC scholarship opportunities, please visit
the AFROTC website at www.afrotc.com or call 1-800-4AFROTC.

**FIELD TRAINING (FT)**

Cadets completing the General Military Course attend four weeks of field train-
ing (FT) during the summer at a selected Air Force base. Those who have not
completed the GMC attend an extended FT Unit. This rigorous program of leader-
ship training, physical conditioning and academics assesses the cadet's potential to be an Air Force officer.

Cadets also receive survival and firearms training, career information, and an opportunity for a military aircraft orientation flight. Cadets receive travel pay and daily pay for FT.

**Professional Development Training (PDT)**

Cadets are eligible to compete to attend PDT during summer months.

PDT consists of several programs, including:

- Army Airborne
- United States Air Force Academy (USAFA) Survival Training
- USAFA Soaring
- USAFA Freefall Parachute Training
- Cadet Training Assistant
- The British Exchange program

Cadets receive travel pay and daily pay for the majority of these programs.

For more information contact Colonel David Mintz at 713-743-4932, or visit the University of Houston Air Force website at www.uh.edu/afrotc.

**See AFSC in the Courses of Instruction section (these are University of Houston listings).**
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

Degree Offered: BA

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 BA in Ancient Mediterranean Civilizations

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.
For general university requirements, see the Graduation Requirements in this publication. Majors in Ancient Mediterranean Civilizations must complete at least thirty (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.

Please note that not all courses listed below will be offered during the academic year. For a current list of AMC courses that will be offered in fall 2004 and spring 2005, please visit the AMC web site at http://amc.rice.edu.

Core Courses
AMC 200 Origins of Western Civilizations: Athens, Rome, and Jerusalem
CLAS 207 Greek Civilization: From Homer to Alexander the Great
CLAS 208 Roman Civilization

Graeco-Roman Civilization
AMC 200 Origins of Western Civilizations: Athens, Rome, and Jerusalem
ANTH 325 Self, Sex, and Society in Ancient Greece
ANTH 363 Early Civilizations
CLAS 101 Freshman Seminar: Socrates: The Man and His Philosophy
CLAS 207 Greek Civilization: From Homer to Alexander the Great
CLAS 208 Roman Civilization
CLAS 209 Greek and Roman Drama
CLAS 220 The Novel in Classical Antiquity
CLAS 222 Perspectives on Greek Tragedy
CLAS 225 Women in Greece and Rome
CLAS 311 Text as Property
CLAS 312 Greek Art and Architecture
CLAS 315 Roman Art and Architecture
CLAS 316 Democracy and Political Theory in Ancient Greece
CLAS 318 The Invention of Paganism in the Roman Empire
CLAS 335 Classical Mythology
CLAS 336 The Origin of the Languages
CLAS 337 Epic and Novel
CLAS 351 Epic and 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 204 Art as Civilization
HART 218 Special Topics: Ancient Greek Sites
HART 219 Independent Study: Ancient Art
HART 228 Special Topics: Christian, Byzantine, and Islamic Art
HART 229 Independent Study: Christian, Byzantine, and Islamic Art
HART 310 The First Civilizations
HART 311 Theme of Fertility
HART 312 Greek Art and Architecture
HART 313 Discovery of the Mind
HART 315 Roman Art and Architecture
HART 320 Age of Augustus
HART 417 Buried Cities: The Art and Architecture of Akrotiri, Pompeii, and Herculaneum
HART 428 Special Topics: Early Christian, Byzantine, and Islamic Art
HART 429 Independent Study: Early Christian, Byzantine, and Islamic Art
HIST 113 God, Time and History
HIST 151 Freshman Seminar: The Hero and His Companion from Gilgamesh to Sam Spade
HIST 200 Origins of Western Civilizations: Athens, Rome, and Jerusalem
HIST 207 Greek Civilization: From Homer to Alexander the Great
HIST 262 Rome: City and Empire
HIST 289 Greek and Latin Readings
HIST 307 Imperial Rome from Caesar to Diocletian
HIST 308 The World of Late Antiquity
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: Plautus and Terence
LATI 310 Advanced Latin: Virgil
LATI 311 Latin Pastoral Poetry
LATI 312 Advanced Latin: Ovid
LATI 313 Cicero and Catullus: Literature and Society in the Roman Republic

**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 in the Middle East

**Jewish Civilization**
RELI 209 Introduction to Judaism
RELI 210 Ethics in Judaism
RELI 350 Scriptures in Monotheistic Faiths

**Christian Civilization**
RELI 122 The Bible and 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 and Commentary
RELI 282 Introduction to Christianity
RELI 309 Gospel and Tradition
RELI 350 Scriptures in Monotheistic Faiths
RELI 354 Asian Apocalyptic Movements
RELI 383 The Dead Sea Scrolls
RELI 410 Apocalypse Then and Now

**Archaeological Methods and Theory**
ANTH 203 Human Antiquity: An Introduction to Physical Anthropology and 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 425 Advanced Topics in Archaeology
ANTH 460 Advanced Archaeological Theory

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

**Comparative**
CLAS 225 Women in Greece and Rome

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

See AMC in the Courses of Instruction section.
Anthropology

The School of Social Sciences

Chair
George E. Marcus

Professors
James D. Faubion
Roderick J. McIntosh
Susan Keech McIntosh
Julie M. Taylor
Stephen A. Tyler

Associate Professor
Eugenia Georges

Visiting Associate Professor
Susan Ossman

Assistant Professors
Christopher Kelty
Hannah Landecker

Visiting Assistant Professor
Richard A. Nisbett

Degrees Offered: BA, MA, PhD

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 BA in Anthropology

For general university requirements, see Graduation Requirements (pages 14–15).

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 26).

Degree Requirements for MA and PhD 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 57-58).

**MA Program**—Graduate students may earn the MA after obtaining approval of their candidacy for the PhD. For the MA as a terminal degree, students must complete:

- 30 semester hours of approved course work
- 1 of the 3 special papers required for the PhD
- A thesis

**PhD Program**—For the PhD 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.
The School of Architecture

Degrees Offered: BA, BArch, MArch, MArch in Urban Design, DArch

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 BA in Architecture or Architectural Studies

For general university requirements, see Graduation Requirements (pages 14–15). The conditions specified here for each major also satisfy the university distribution requirements.

BA 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 (BArch.) degree program during the second semester of the fourth year.

BA 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 BA 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*  
Elective*

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

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 BArch. 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 BArch. degree requires the successful completion of the BA in architecture, completion of the two-semester preceptorship, and completion of 2 graduate studios and 5 approved lecture or seminar courses.
Master of Architecture (MArch) 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 or physics. Previous preparation in the visual arts is also desirable as 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 (including thesis) 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

### 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 (BArch.), 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).

Thesis Requirement—All MArch 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.
The Department of Art History offers a wide range of courses in European, American, Asian, and Middle Eastern/Islamic art history with additional strengths in architectural history and film and media studies. The major in art history is structured to expose students to the chronological, geographical, and methodological breadth of the field of scholarship.

Degree Requirements for BA in Art History

For general university requirements, see Graduation Requirements (pages 14–15). Students with a single major in Art History must complete 36 hours (12 courses) and double majors must complete 30 hours (10 courses) in art history. A total of six of the courses for double and single majors must be at the 300 level or above. Of these six courses, two courses must be in each of the following periods: Pre Modern, Early Modern, and Modern. Three of these six courses must also be in American/European, distributed over the three periods; one course in Asian from any period; and one course in the Middle East/Islamic from any period. Of the 12/10 courses for single and double majors, at least two courses must be seminars.

It is strongly recommended that majors in Art History acquire a proficiency in at least one foreign language.

In addition, Art History majors are encouraged to take advantage of the opportunities provided by museum internships, study abroad programs, and travel fellowships.

Transfer Credit

With approval from the departmental undergraduate adviser, a maximum of four courses may be taken outside of the department and applied to the major as transfer credits or study abroad course credits. No Advanced Placement credits may be used to satisfy major requirements.

See also Transfer Credit in the Information for Undergraduate Students section (page 27–28).

Honors Program in Art History

Art History majors may apply in the spring semester of their junior year for acceptance into the Honors Program. Interested students, with an excellent academic record, must submit a thesis proposal and recommendation from their thesis adviser to a committee of art historians for review. If accepted, six credit hours
(included in the 36/30 hours for single and double majors) of directed research and writing would be taken the senior year to complete an honors thesis (HART 402/HART 403). Financial assistance is available for honor students to conduct research between their junior and senior years. In addition to a written thesis, honors students must make a presentation to the faculty and students of the department. Once the adviser and readers have evaluated the completed thesis, the art history faculty determine whether to award honors. Students who do not make satisfactory progress in the first term will not be allowed to continue. Students who miss the final thesis deadline (mid-spring semester of the senior year) will receive a grade and credit but no honors.

**Exhibitions, Lectures, and Arts Programs at Rice**

Exhibitions and related activities organized by the 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 (ARTV), 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 internship courses (HART 400, HART 401, HART 500, HART 501), summer internship working opportunities, fellowships, or collaborative events. The collections and special exhibitions of local museums are often the subject of course lectures.

Lectures, symposia, and talks are sponsored through our Scholars’ Forum Lecture Series, the Department of Art History Brown Bag Lunch Series, and specially organized events. 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 ARTV in the Courses of Instruction section.
Asian Studies

The School of Humanities and the School of Social Sciences

Director
Steven Lewis

Professors
Anne C. Klein
Jeffrey J. Kripal
Masayoshi Shibatani
Richard J. Smith
Stephen A. Tyler

Professor Emeritus
Fred R. von der Mehden

Associate Professors
Suchan Chae
William Parsons
Nanxiu Qian

Assistant Professors
David Cook
Elora Shehabuddin
Sarah Thal
Kerry Ward

Distinguished Lecturer
Thomas McEvilley

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

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

Postdoctoral Fellow
David Gray

Degree Offered: BA

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 BA in Asian Studies

For general university requirements, see Graduation Requirements (pages 14–15). 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, or ASIA 403) 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 371 *The Brush and the Stroke in Traditional Chinese Painting* (also offered as ASIA 371)

HART 470 *Visual Culture in Revolutionary and Post-revolutionary China* (ca. 1949-present) (also offered as ASIA 470)

HART 472 *Japanese Animation* (also offered as ASIA 472 and HIST 472)

**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* (also offered as WGST 323 and RELI 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 *Traditional Chinese Tales* (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 365 Marriage of Heaven and Hell
(also offered as RELI 365)
ASIA 365 Mysticism and Meditation in China
(also offered as RELI 365)
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 and 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 and 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 Traditional Chinese Tales
(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

English

ENGL 372 Survey of Asian American Literature
(also offered as ASIA 372)
ENGL 473 Topics in Asian American Literature
(also offered as ASIA 473)

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 Fortune-Tellers and Philosophers
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 270 South Africa and Indonesia
HIST 310 Contemporary China
(enriched version of HIST 220; also offered as ANTH 310)
HIST 319 Fortune-Tellers and Philosophers
HIST 321 Japan in the World Until 1800
HIST 322 Japan in the World Since 1800
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

Japanese
JAPA 101/102 Introduction to Japanese I and II
JAPA 201/202 Intermediate Japanese I and II
JAPA 301/302 Advanced Japanese Reading and Composition I and II
JAPA 398/399 Japanese Teaching Practicum
JAPA 498/499 Independent Study

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)

Linguistics
LING 321 Structure of Chinese Syntax and 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)
RELI 221 The Life of the Prophet Muhammad (also offered as ASIA 221)
RELI 231 The Enlightenment of the Body (also offered as ASIA 231)
RELI 250 Meditation, Mysticism, and Magic (also offered as ASIA 250)
RELI 322 Introduction to Buddhism
RELI 323 The Knowing Body (also offered as ASIA 323)
RELI 325 Buddhism and the Female
RELI 331/332 Advanced Tibetan Language and Culture I and II (also offered as TIBT 331/332)
RELI 354 Asian Apocalyptic Movements (also offered as ASIA 354)
RELI 355 Religion and Social Change in South Asia (also offered as ASIA 355)
RELI 356 Major Issues in Contemporary Islam
RELI 361 The Oriental Renaissance (also offered as ASIA 361)
RELI 363 The Marriage of Heaven and Hell (also offered as ASIA 363)
RELI 365 Mysticism and Meditation in China (also offered as ASIA 365)
RELI 441/525 Popular Religion in the Middle East (also offered as ASIA 441)
RELI 470 Buddhist Wisdom Texts
RELI 471 Buddhist Meditation Theory: Women and Men
RELI 480/580 Sexuality, Sanctity, and Psychoanalysis (also offered as WGST 470)

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

Tibetan
TIBT 132/133 Tibetan Language and Culture I and II (also offered as RELI 132/133)
TIBT 331/332 Advanced Tibetan Language and Culture I and II (also offered as RELI 331/332)

University and Residential College Courses
BAKE 121/JONE 135 Beginning Vietnamese Language and 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

Vietnamese
JONE 135/BAKE 121 Beginning Vietnamese Language and Culture
JONE 279 Intermediate Vietnamese Language and 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)
WGST 470 Sexuality, Sanctity, and Psychoanalysis (also offered as RELI 480/580)

See ASIA in the Courses of Instruction section.
BIOENGINEERING

GEORGE R. BROWN SCHOOL OF ENGINEERING

CHAIR
David Hellums

PROFESSORS
Kyriacos Athanasiou
John W. Clark
Michael W. Deem
Lydia Kavraki
Antonios G. Mikos
Ka-Yiu San
Jennifer L. West
Kyriacos Zygourakis

ASSOCIATE PROFESSORS
Bahman Anvari
Michael A. Barry
Fathi Ghorbel
Jianpeng Ma

ASSISTANT PROFESSORS
Rebekah Drezek
K. Jane Grande-Allen
Michael Liebschner
Nikolaos Mantzaris
Robert Raphael

LECTURER/DIRECTOR OF
LABORATORY INSTRUCTION
Ann Saterbak

ADJUNCT PROFESSORS
William Brownell
Gregory R. D. Evans
Craig J. Hartley
José A. López
Joel L. Moake
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
Doreen Rosenstraach
Rolando E. Rumbaut

Degrees Offered: BSB, MS, PhD

Graduate programs in bioengineering offer concentrations in areas that include cellular and molecular engineering; bioinstrumentation, imaging, and optics; biomaterials and biomechanics; and computation bioengineering. Undergraduate programs in bioengineering offer concentrations in areas that include cellular and molecular engineering; bioinstrumentation, imaging, and optics; biomaterials and biomechanics; and computation bioengineering. Research areas include biomechanical engineering, biological systems modeling, bioinformatics, biomaterials, biomedical lasers, cellular and molecular engineering, controlled release technologies, metabolic engineering, spectroscopy, statistical mechanics, 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 BS degree in bioengineering will:

• Provide students with a fundamental understanding of mathematics and the natural, life, and medical sciences
• Teach students bioengineering principles and their applications 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 BSB 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 BS in Bioengineering**

For general university requirements, see Graduation Requirements (pages 14–15). The curriculum for a BS 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. 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 in the second semester of the sophomore year.

**Specialization Areas**—Students in the BSB program will choose courses from one of the four specialization tracks:

- Cellular and molecular engineering
- Bioinstrumentation, imaging, and optics
- Biomaterials and biomechanics
- Computational bioengineering

Students majoring in bioengineering must complete the following courses.

**Core Courses**

**Bioengineering**
- BIOE 252 Bioengineering Fundamentals
- BIOE 320 Systems Physiology Lab Module
- BIOE 322 Systems Physiology
- BIOE 332 Thermodynamics
- BIOE 342 Tissue Culture Laboratory
- BIOE 372 Introductory Biomechanics/Biomaterials
- BIOE 383 Biomedical Instrumentation
- BIOE 391 Numerical Methods and Statistics
- BIOE 420 Biosystems Transport and Reaction Processes
- BIOE 442* Tissue Engineering Laboratory Module
- BIOE 443* Bioprocessing Laboratory Module
- BIOE 444* Biomechanical Testing Laboratory Module
- BIOE 445* Advanced Bioinstrumentation Laboratory Module
- BIOE 451 Bioengineering Design I
- BIOE 452 Bioengineering Design II

**Biosciences**
- BIOS 201 Introductory Biology
- BIOS 301 Biochemistry
- BIOS 311 or 312 Biosciences Laboratory Module
- BIOS 341 Cell Biology

**Computational and Applied Mathematics**
- CAAM 210 Introduction to Engineering Computation
De Partments / Bioengineering

Chemistry
CH EM 121 General Chemistry
CH EM 122 General Chemistry
CH EM 211 Organic Chemistry
CH EM 212 Organic Chemistry
CH EM 215 Organic Chemistry Laboratory

Math
MATH 101 Single Variable Calculus I
MATH 102 Single Variable Calculus II

MATH 211 ODEs and Linear Algebra
MATH 212 Multivariable Calculus

Mechanical Engineering
MECH 211 Engineering Mechanics

Physics
PHYS 101 or PHYS 111 or PHYS 125 Mechanics
PHYS 102 or PHYS 112 or PHYS 126 Electricity and Magnetism

Chemistry
CHEM 121 General Chemistry
CHEM 122 General Chemistry
CHEM 211 Organic Chemistry
CHEM 212 Organic Chemistry
CHEM 215 Organic Chemistry Laboratory

Math
MATH 101 Single Variable Calculus I
MATH 102 Single Variable Calculus II

*Students must take the senior laboratory module in their specialization area: BIOE 443 for Cellular and Molecular Engineering, BIOE 442 or 444 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).

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 ME, MS, and PhD in Bioengineering
For general university requirements, see Graduate Degrees (pages 57–61).

ME Program—To obtain a Masters of Engineering from the Bioengineering department you must complete the following course work:

- Curriculum has to be approved by the Academic Affairs Committee (This will be done on a case by case basis)
- Total of 30 credit hours are required (Course must be above and beyond the requirement for the undergraduate degree)
- At least 18 credit hours of the 30 must be taken as BIOE courses including the foundation courses
  Foundation courses include:
  - Biosystems Transport and Reaction Processes (BIOE 520)
  - Fundamentals of Systems Physiology (BIOE 572)
  - Introduction to Partial Differential Equations (MATH 381)
- One additional Engineering Course (3 hours).
- Three Additional courses approved by the Academic Affairs Committee (9 hours)
18 hours in BIOE courses
3 hours of additional Engineering
9 hours of additional approved by Academic Affairs Committee

30 Total credit hours

**MS Program**—Candidates for the MS 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

**PhD Program**—Candidates for the PhD 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 MS 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. PhD 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
- Computational bioengineering

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
Janet Braam
Zenaido Camacho
Raymon M. Glantz
Richard H. Gomer
Jordan Konisky
Seiichi P.T. Matsuda
Kathleen Shive Matthews
John S. Olson
Ronald J. Parry
Michael Stern
Charles R. Stewart

PROFESSORS EMERITI
Jorge Awapara
James Wayne Campbell
Graham Palmer
James B. Walker

ASSOCIATE PROFESSORS
Bonnie Bartel
Michael C. Gustin
Edward P. Nikonowicz
Pernilla Wittung-Stafshede

ASSISTANT PROFESSORS
Mary Ellen Lane
Kevin R. MacKenzie
James A. McNew
Yousif Shamoo
Jonathan Silberg
Yizhi Jane Tao
Daniel Wagner

SENIOR FACULTY FELLOW
Marian Fabian

LECTURER/LABORATORY COORDINATORS
Beth Beason
David R. Caprette
M. Susan Cates

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

ECOLOGY AND EVOLUTIONARY BIOLOGY

THE WIESS SCHOOL OF NATURAL SCIENCES

CHAIR
Joan Strassmann

PROFESSORS
Paul A. Harcombe
David C. Queller
Ronald L. Sass
Calvin H. Ward

ASSOCIATE PROFESSOR
Evan Siemann

ASSISTANT PROFESSORS
Nat Holland
Michael Kohn
Lisa Meffert

LECTURER/LABORATORY COORDINATOR
Barry Sullender

HUXLEY FELLOWS
Anne Danielson-François
Saara DeWalt

FACULTY FELLOWS
Kevin Foster
William Rogers

PROFESSORS EMERITI
Frank M. Fisher, Jr.
Stephen Subtelny

ADJUNCT FACULTY
Nancy Greig
Steve Pennings
**Degrees Offered:** BA, BS, MA, PhD

**Undergraduate Programs**—The Departments of Biochemistry and Cell Biology and Ecology and Evolutionary Biology offer a broad range of courses in the biosciences: animal behavior, animal biology, biochemistry, biophysics, cell biology, developmental biology, ecology, endocrinology, evolutionary biology, genetics, immunology, microbiology, molecular biology, neurobiology, plant biology, and advanced courses in these and related areas. Students may elect a BA in Biochemistry and Cell Biology, BA in Biological Sciences, BS in Biochemistry and Cell Biology, or BS in Ecology and Evolutionary Biology; and may select courses from the range of topics listed above.

**Core courses required of all biosciences majors:**

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>One Group B BIOS course</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 101/102 Single Variable Calculus I and II</td>
<td>2 of the following advanced laboratory courses:</td>
</tr>
<tr>
<td><strong>Chemistry</strong></td>
<td>BIOS 311 Lab in Protein Purification</td>
</tr>
<tr>
<td>CHEM 121/122 General Chemistry</td>
<td>BIOS 312 Lab Module in Molecular Biology I</td>
</tr>
<tr>
<td>with Laboratory</td>
<td>BIOS 313 Lab Module in Molecular Biology II</td>
</tr>
<tr>
<td>CHEM 211/212 Organic Chemistry</td>
<td>BIOS 314 Lab in Cell and Developmental Biology</td>
</tr>
<tr>
<td>CHEM 215 Organic Chemistry Lab</td>
<td>BIOS 315 Lab in Physiology</td>
</tr>
<tr>
<td><strong>Physics</strong></td>
<td>BIOS 316 Lab in Ecology</td>
</tr>
<tr>
<td>PHYS 125/126 General Physics I and II</td>
<td>BIOS 317 Lab in Behavior</td>
</tr>
<tr>
<td><strong>Biosciences</strong></td>
<td>BIOS 318 Lab in Microbiology</td>
</tr>
<tr>
<td>BIOS 201/202 Introductory Biology</td>
<td>BIOS 319 Tropical Field Biology</td>
</tr>
<tr>
<td>BIOS 301 Biochemistry</td>
<td>BIOS 320 Lab in Tissue Culture</td>
</tr>
<tr>
<td>BIOS 211 Introductory Lab in Biological Sciences (2 credit hours)</td>
<td>BIOE 342 Lab in Tissue Culture</td>
</tr>
<tr>
<td>BIOS 213 Introductory Lab in Ecology and Evolutionary Biology</td>
<td>BIOS 530 NMR Spectroscopy and Molecular Modeling</td>
</tr>
<tr>
<td></td>
<td>BIOS 532 Spectroscopy</td>
</tr>
<tr>
<td></td>
<td>BIOS 533 Computational Biology</td>
</tr>
<tr>
<td></td>
<td>BIOS 535 Practical X-Ray Crystallography</td>
</tr>
</tbody>
</table>

Math 111 and 112 may be substituted for Math 101; Chem 151, 152 may be substituted for Chem 121, 122; Phys 101 and 102 or Phys 111 and 112 and their labs may be substituted for Phys 125, 126. See listings in the Courses of Instruction for Group A and B designations. No course may be counted more than once toward any of the major requirements.

One of the advanced laboratory course requirements can be satisfied by taking any of the following: (i) Bios 310 if taken for at least two credits; or (ii) Hons 470/471, if the research supervisor is from one of the Biosciences departments, or if the research is biological in nature and pre-approved by the student’s advisor; or (iii) Bios 412.

**BA in Biochemistry and Cell Biology**

In addition to the core courses required of all biosciences majors, BA majors within this option must also take:

- MATH 211 or MATH 213
- BIOS 311
• BIOS 341
• Two of the following courses: BIOS 302, BIOS 344, BIOS 352
• Two additional Group A biosciences courses, only one of which may be BIOS 401 or 402

Chem 311 and 312 may be substituted for BIOS 352. Neur 511 and 512 may be substituted for one Group A course. Students may receive credit toward the major for a maximum of 3 credits of BIOS 390.

BA in Biological Sciences
In addition to the core courses that are required of all biosciences majors, BA majors within this option must take:
• MATH 211 or MATH 213 or STAT 305
• One of the following advanced lab courses: BIOS 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 530, 532, 533, 535, or BIOE 342
• One of the following Group A courses: BIOS 302, 341, 344, 352
• One additional Group A course
• Two Group B courses
• One additional Group A or Group B course

Only one of the courses used to satisfy these group A and group B requirements may be BIOS 401, 402, 403, or 404. NEUR 511 and 512 may be substituted for one Group A course. Students may receive credit toward the major for a maximum of 3 credits of BIOS 390 and 3 credits of BIOS 391. Students desiring to specialize in ecology and evolutionary biology can choose a group B course for the group A or B course and their advanced lab can be BIOS 316, 317, or 319.

BS in Biochemistry and Cell Biology
In addition to the core courses required of all biosciences majors, BS majors must also take:
• MATH 211 or MATH 213
• BIOS 311
• BIOS 302
• BIOS 341
• BIOS 344
• BIOS 352
• Three additional Group A bioscience courses

BIOS 401 and 402 are recommended Group A courses in the BS degree program. NEUR 511 and 512 may be substituted for one Group A course. Students may receive credit toward the major for a maximum of 3 credits of BIOS 390.

BS in Ecology and Evolutionary Biology
In addition to the core courses required of all biosciences majors, BS majors must also take:
• MATH 211 or MATH 213 or Stat 305
• One of the following advanced laboratory courses: BIOS 316, 317, 319
• One Group A biosciences course
• BIOS 403 and BIOS 404
• Two additional Group B biosciences courses
• One additional biosciences course from Group A or B
NEUR 511 and 512 may be substituted for one Group A course. Students may receive credit toward the major for a maximum of 3 credits of BIOS 390 and 3 credits of BIOS 391.

**Advising**—Students should contact the appropriate departmental office to be assigned to an advisor. Those pursuing a BS or BA in Biochemistry and Cell Biology should contact that department office. Those pursuing a BS in Ecology and Evolutionary Biology should contact that department office. Those electing a BA in Biological Sciences may choose the department that most closely corresponds to their interests, and that choice may be changed at any time. 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.

It is recommended that the 100-level mathematics and chemistry courses be taken in the freshman year; that the 100-level physics courses and the 200-level biosciences courses be taken in either the freshman or sophomore year; and that CHEM 211, 212, 215 be taken in the sophomore year. Those with a limited background in chemistry should complete CHEM 121, 122 before taking BIOS 201, 202. Others are urged to take BIOS 201, 202 as freshmen, to permit earlier access to advanced level BIOS courses. PHYS 125 and 126 are the preferred physics courses for biosciences majors. However, PHYS 101 and 102 or PHYS 111 and 112 and their labs may be taken instead by those wishing to preserve the option of majoring in a subject for which PHYS 101 and 102 are required.

An undergraduate major in biosciences must have 48 semester hours in courses numbered 300 or higher to obtain a BA or BS degree. Students must also complete no fewer than 60 semester hours outside the departmental requirements. These must include the courses needed to satisfy the university distribution requirements.

**Accelerated Rice BA–BS/PhD Program in Biochemistry and Cell Biology**

Qualified undergraduate students at Rice can apply to enroll in the biochemistry and cell biology graduate program in their senior year. The course requirements for graduate studies are therefore completed at the same time as the upper-level undergraduate degree requirements; laboratory research performed as part of the undergraduate thesis project can serve as the initial phases of the PhD thesis work. As a result, the graduate careers of these students will be accelerated by at least one full year, and, in principle, such students should be able to obtain their PhD degrees approximately three years after obtaining their BA or BS degree.

Criteria for selection include academic performance (GPA ≥ 3.3), GRE scores, motivation, previous research experience, and personal qualities. Selection is made by the department admissions committee.

**Mechanics of the Program**

The program requires the completion of two and one-half years (or their equivalent) of undergraduate studies at Rice before a student can be considered for enrollment in the accelerated PhD program. To continue in the program, the following requirements must be fulfilled: (1) The student must take the GRE before receiving the BA or BS degree and receive scores greater than 80 percent in the Analytical and Quantitative Tests; (2) students must also maintain at least a B average in all courses in their senior year; and (3) the usual graduate requirements will apply for continuation in the program.
**Degree Requirements for MA and PhD in Biochemistry and Cell Biology**

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

- BA 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 MA degree in biochemistry and cell biology, only on rare occasions are students who do not intend to pursue the PhD degree admitted to the graduate program. The department provides a program guide entitled “Graduate Program for Biochemistry and Cell Biology” which is updated annually. For general university requirements, see Graduate Degrees (in the General Announcements).

**Both PhD and MA 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: Stern, Bartel, Braam, Gustin, Olson). 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 are missing 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 and 313 *Laboratories for the Biosciences*
- BIOS 341 *Cell Biology*
- BIOS 344 *Molecular Biology and Genetics*
- BIOS 352 *Physical Chemistry for the Biosciences*

**All PhD 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 Biosciences 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 551 *Molecular Biophysics*
- 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 examinations (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 advisors 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 advisor
- 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 PhD thesis research and text in a final public seminar presentation and oral examination attended by the student’s Thesis Committee

**MA Program** — All the above requirements and evaluation procedures apply to MA candidates with the following exceptions. The research progress review examination held during the MA student’s second full year, which is identical in format to that for PhD students, replaces the admission to candidacy examination; no other preliminary examination is held before the final oral defense of the master’s thesis. MA 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 MA and PhD in Ecology and Evolutionary Biology**

**Admission** — Applicants for graduate study in the Department of Ecology and Evolutionary Biology must have:

- BA degree or equivalent
- Scores from the Graduate Record Examination (GRE), including the advanced examination in biology
- A 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 advisor and the department chair.

Entering students will meet with a faculty advisor 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 PhD in no less than 3 and no more than 5 years.

**MS 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.

**MA 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.

**PhD Program**—In addition to the general university requirements and those listed above, applicants for the PhD 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
The Center for the Study of Languages (CSL) was founded in 1997 to promote and enhance the study of languages at Rice University and is responsible for teaching 13 languages through the third year of instruction. 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), the technology division of the CSL, provides resources such as specialized computer software and enhanced videos to support and supplement all aspects of the teaching and learning of languages.

**Degrees Offered: None**

The CSL does not offer degree programs itself, but students are able to pursue language degrees from language departments. Some of those degrees include: BA in Asian Studies (Asian Studies), BA in Classical Studies (Classical Studies), BA, MA, and PhD in French Studies (French Studies), BA in German Studies, BA in Slavic Studies (German and Slavic Studies), and BA, MA in Spanish (Hispanic Studies). See each department for degree requirements.

**Placement Testing**

Foreign language classes are popular among Rice University students who wish to enhance their knowledge of world languages and cultures. 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 given online prior to matriculation or during O-Week. Additional information regarding language placement tests can be found on the Language Resource Center web page 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 27) 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. When requesting Rice equivalent credit for foreign language acquisition courses students must submit no less that the following to the CSL for approval: 1) the appropriate transfer request form from the Registrar's Office, 2) a program description for courses taken abroad or catalog description for courses taken in the US, and 3) a syllabus for the course they wish to take or have taken. In addition, students may be required to interview with a faculty member or complete a proficiency test after completion of the course. Students should be aware that the approval process takes about one week and plan accordingly.

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, and SPAN in the Courses of Instruction section.
Degrees Offered: BA, BSChE, MChE, MS, PhD

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 BA requirements or the more scientific and professional BSChE requirements, students may apply for a fifth year of study leading to the nonthesis Master of Chemical Engineering (MChE) degree. A joint MBA/MChE degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

Students admitted for graduate studies leading to the MS or PhD 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 BS in Chemical Engineering

For general university requirements, see Graduation Requirements (pages 14–15). The BS 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 BS in chemical engineering. Students majoring in chemical engineering must complete 96 hours in the courses specified below for a minimum of 132 hours at graduation.

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 BA in Chemical Engineering**

**Chemistry**
- CHEM 121/122 General Chemistry with Laboratory
- 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 Computer Programing in 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 Design Fundamentals
- CENG 404 Product and 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

**Engineering Breadth**
- 1 approved basic science course
- 3 courses from the following:
  - ELEC 243 Electrical Circuits
  - MSCI 301 Materials Science
  - GEVE 300 Mechanics of Solids
  - CEVE 434 Chemical Transport and Fate in the Environment
  - BIOE 420 Biosystems Transport and Reaction Processes
  - BIOE 460 Biochemical Engineering
  - CEVE 411 Air Resource Management or see requirements for focus areas in environmental science/engineering, bioengineering, materials science/engineering, and computational engineering

With the approval of the departmental undergraduate studies committee, students can also develop a focus (or concentration) area by substituting other engineering or science courses for those listed under Engineering Breadth.

Students pursuing the BA degree in chemical engineering must meet all of the requirements for the BSChE. 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 transferable.

Degree Requirements for MChE, MS, and PhD in Chemical Engineering

For general university requirements, see Graduate Degrees (pages 57–58).

MChE Program—For the MChE 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.

MS Program—Candidates for the MS 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

PhD Program—Candidates for the PhD 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 MS 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
Vicki L. Colvin
Robert F. Curl, Jr.
Paul S. Engel
Graham P. Glass
Naomi Halas
John S. Hutchinson
James L. Kinsey
Seiichi P.T. Matsuda
Ronald J. Parry
Ronald L. Sass
Gustavo E. Scuseria
Richard E. Smalley
James M. Tour
R. Bruce Weisman
Kenton H. Whitmire
Lon J. Wilson

Associate Professors
E. Pernilla L. Wittung Stafshede
Boris I. Yakobson

Assistant Professors
Victor Behar
Cecilia Clementi
Jason H. Hafner
Jeffrey D. Hartgerink
Anatoly Kolomeisky
Michael S. Wong

Adjunct Professors
Marco Ciufolini
Tohru Fukuyama
Peter Harland
Michael Metzker
M. Robert Willcott

Lecturers
Lawrence B. Alemany
Mary E. R. McHale

Distinguished Faculty Fellow
Robert H. Hauge
Bruce R. Johnson

Faculty Fellow
Valery Khabashesku
Kristen Kulinowski

Visiting Professor
Raphael Levine

Degrees Offered: BA, BS, MA, PhD

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 BS 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 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; studies of electron transfer in crossed 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 BA in Chemistry**

For general university requirements, see Graduation Requirements (pages 14–15). Students choosing to receive a BA 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)

* The Department of Mathematics may, after consultation with a student concerning his/her previous math preparation, recommend that a student be placed into a higher level math course than for which the student has official credit. The Department of Chemistry will accept this waiver of the math classes upon a written confirmation of the waiver from the Department of Mathematics and upon the student’s successful completion of the higher level math course.

### 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 BA 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 BS in Chemistry

The core chemistry, math, physics, and NSCI 230 requirements for the BS degree are the same as those for the BA degree. PHYS 201 Waves and Optics and PHYS 202 Modern Physics are recommended but not required.

In addition to the core requirements, the BS 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 BA 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 BS major must satisfy the distribution requirements (see pages 15–16) 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 BA degree is not certifiable. For certification, students must complete:

- All degree requirements for the BS 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 BS 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:
Chemistry 121

Admission Requirements for Accelerated BS/PhD Program in Chemistry

The high level of training provided in the Rice BS program enables certain specially qualified undergraduates to enter an accelerated program that allows them to complete a PhD degree within two or three years after receiving their BS 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.

** Students wishing to be considered for the accelerated BS/PhD program should apply to the Department by January 15 of the second semester of their sophomore or junior years at Rice. The student should submit with the application a letter describing why they would like to enroll in this program and outline briefly their intended plan of study, stating their area of interest and with whom they would like to undertake graduate research. After an interview, the Department’s graduate admissions committee will consider the application and inform the candidate of their decision by no later than April 15 of that semester. Students admitted to the program will be assigned a committee to work out details of required courses for the accelerated program.

Degree Requirements for MA and PhD in Chemistry

For general university requirements, see Graduate Degrees (pages 57–58). Students who have completed course work equivalent to that required for a BA or BS in chemistry may apply for admission to the PhD program. For more information, see Admission to Graduate Study (pages 56–57).

MA Program—Students are NOT normally admitted to study for an MA degree. However, this degree is sometimes awarded to students who do not wish to complete the entire PhD program. Candidates for the MA 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 PhD candidacy may apply for an automatic master’s degree.

**Requirements for the PhD in Chemistry at Rice University**

The PhD in Chemistry is awarded for original research in Chemistry. Candidates receive a PhD after successfully completing at least 90 semester hours of advanced study in Chemistry and related fields and culminating in a thesis that describes an original and significant investigation in Chemistry. The thesis must be satisfactorily defended in a public oral examination. The student must pass the thesis defense before the end of the 16th semester of residency.

**Research**

During the first semester of residence students will select a research advisor from among the members of the faculty; the department chair must approve this choice. In some cases, students may choose research advisors outside of the department; however, such arrangements must be approved by the chemistry faculty. The research advisor will guide the student in the choice of an appropriate research topic and in the detailed training required to complete that project. Students must enroll in CHEM 800 (Graduate Research) and must participate in one of the graduate seminar classes offered by the department (currently CHEM 600, 601 or 602) each semester that the student is in residence.

**Course Work**

The student must complete 6 three-semester-hour graduate-level lecture courses at Rice University. In order to satisfy this requirement, each of these courses must satisfy the following criteria:

- They must be approved by the department’s graduate advising committee.
- If a Chemistry course, it must be at the 400 level or higher. Certain 300 level courses in other departments may be acceptable with prior approval by the department’s graduate advising committee. Courses must be in technical subjects in Science or Engineering. Courses in teaching, presentation or management will not be counted towards the 6-class requirement.
- Each course must be passed with a grade of B or higher. It is possible to repeat or replace a course, upon approval of the department’s graduate advising committee. A maximum of two courses can be repeated/replaced.

Students transferring from other graduate institutions or students with a master degree can apply to have a maximum of 2 courses waived. A course waiver request must be accompanied by proof that a course pertinent to the student’s field of research has been successfully completed at a different institution. Waiver requests must be submitted for approval to the department’s graduate advising committee.

**Teaching**

Each student is required to participate in CHEM 700 (Teaching Practicum), for four semesters with no grade less than B-.

**Qualifying Examination**

An examination committee, consisting of three faculty members excluding the research advisor, will be assigned to each student, typically in the second semester. The student must defend an original research proposal before this committee, involving both a written and oral presentation of the original research proposal. The written proposal must conform to the format and guidelines established by the
Chemistry Department, which are available in the Department office. The written proposal must be submitted to the committee at least one week before the date of the oral examination. The examination (including any follow up work deemed necessary by the committee) must be passed by the last day of class at the end of the student’s fourth semester in residency.

**Advancement To Candidacy For The PhD**

The course and examination requirements listed above must be completed within two years of admittance to the graduate program. After completing these requirements, a student must petition to be advanced to candidacy for the PhD degree. Upon advancement to candidacy a student chooses a thesis committee of at least three faculty members with the guidance and approval of the research advisor and department Chair. The thesis committee must include one faculty member holding primary appointment outside of the Chemistry Department.

**Satisfactory Performance**

Students are expected to perform satisfactorily in research as judged by their research director and their thesis committee. Students may also be requested to fulfill certain service functions for the Department. The student must be enrolled full time in a research group each semester that the student is in residence (except the first semester). Every year the student must submit an annual three-page research progress report to the thesis committee by August 1st.

The thesis committee will assess the progress being made in research and may invite the student to present a discussion of their work. If progress is unsatisfactory, the committee may recommend a semester of probation, which may result in dismissal from the program if progress remains unsatisfactory in the subsequent semester. The student, advisor, or committee may request a meeting between student and committee at other times to evaluate progress or to determine a course of action.

In order to remain in good standing, a student must receive grades above B- in CHEM 800, CHEM 700, and the various seminar courses. In the completed lecture courses, a student must maintain an average GPA of 3.00 (B) or higher. Failure to maintain satisfactory progress in research and/or grades will result in probation and possible dismissal.

**Appeal**

Students may petition the Chemistry Department Graduate Advising Committee for variances on these academic regulations.
Civil and Environmental Engineering

The George R. Brown School of Engineering

Chair
Herb Ward

Professors
Pedro Alvarez
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
Matthew P. Fraser
Satish Nagarajaiah

Adjunct Professors
James B. Blackburn
Jean-Yves Bottero
Joseph Hughes
Pat H. Moore
Carroll Oubre
Baxter Vieux

Adjunct Assistant Professor
Charles J. Newell

Lecturers
Joseph Cibor
John Grounds
Moyeen Haque
John E. Merwin
John M. Sedlak
Ed Segner, III
Taquir Sheikh

Degrees Offered: BA, MCE, MEE, MES, MS, PhD

Civil and environmental engineering (CEVE) 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 (BS or BA) or complete a double major with any other Rice University major. Three nonthesis graduate degrees (MCE, MEE, and MES) are available to students who desire additional education and specialization in civil engineering, environmental engineering, or environmental sciences. Joint MBA/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 MS or PhD 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 environmental engineering, geotechnical engineering, structural engineering and mechanics, hydrology, water resources and water quality management, air pollution and its control, and hazardous waste treatment.

BS Degree in Civil Engineering

The Department of Civil and Environmental Engineering (CEVE) offers an innovative and challenging BS engineering curriculum, which is designed to provide significant flexibility to the student. Specific details and typical course layouts by semester can be found at the departmental website: http://ceve.rice.edu.

The main features of the ABET accredited BS in Civil Engineering are as follows:

- Six core courses (21 hours) primarily aimed at introduction to civil and environmental engineering, followed by 8 courses (24 hours) that represent the four thrust areas within CEVE
- The total required CEVE courses are kept to a minimum level of 45 hours to provide maximum flexibility to the student
- The thrust areas include (1) Environmental engineering (air and water quality, transport theory and modeling), (2) Hydrology and water resources (watershed and aquifer management, flood prediction, data analysis, GIS), (3) Structural engineering and mechanics (structural analysis, mechanics, design, matrix methods), (4) Urban infrastructure and management (transportation systems, geotechnical engineering, engineering economics, management)
- A choice of free electives (24 hours) to allow maximum flexibility for students to choose from an approved list of courses
- General science (39 hours) courses involve mathematics, physics, and chemistry
• Distribution (24 hours) courses as per university requirements

Total of at least 132 hours are required for graduation with a BS (see detailed list below).

Additional features of the BS curriculum include
• Freshman/sophomore year courses that introduce fundamentals of CEVE primarily targeted at students with diverse science, engineering, and humanities backgrounds (CEVE 101, 201, 203, 204, 211, and 311, 312)
• Special topics course available in the final year to help attract the best students to perform undergraduate research in the department
• Engineers Without Borders (EWB) is an important component of the program. This exciting new endeavor allows undergraduates to have an experience in a developing country where they are able to actually design and build a project to help society. Students have been attracted to the program in large numbers.

Course Requirements

General Science Requirements (* or an equivalent approved course)
MATH 101 Single Variable Calculus I (3)
MATH 102 Single Variable Calculus II (3)
CHEM 121 General Chemistry with Lab (4)
CHEM 122 General Chemistry with Lab (4)
PHYS 101 Mechanics with Lab (3)
PHYS 102 Electricity and Magnetism with Lab (4)
MATH 211 Ordinary Differential Equations (3)
MATH 212 Multivariable Calculus (3)
CAAM 210 Intro to Engineering Comp (3)
STAT 310* Probability and Statistics (3)
CAAM 335* Matrix Analysis (3)
CHEM 211 or PHY 201 or BIOS 201 (3)

CEVE Core Requirements (21 credits)
CEVE 101 (F) Fundamentals of CEVE (3)
CEVE 203 (F) Environmental Eng. Processes (3)
CEVE 204 (F) Environmental Eng. Lab (1)
CEVE 211 (F) Engineering Mechanics (3)
CEVE 311 (S) Mechanics of Solids and Structures (3)
CEVE 312 (S) Strength of Materials Lab (1)
CEVE 371 (F) Fluid Mechanics (3)
CEVE 480 (S) Senior Design Project (4)

Area I Environmental Engineering (select 6 approved hours)
CEVE 401 (F) Environmental Chemistry (4)
CEVE 406 (S) Environmental Law (3)
CEVE 411 (S) Air Resources Management (3)
CEVE 434 (F) Chemical Transport and Fate (3)
Or any approved environmental course in CEVE/CENG

Area II Hydrology and Water Resources (select 6 approved hours)
CEVE 412 (S) Hydrology and Watersbeds Analysis (3)

CEVE 512 (S) Hydrologic Design Lab (3)
CEVE 443 (F) Atmospheric Science (3)
ESCI 450 (S) Remote Sensing (3)
ESCI 451 (F) Analysis of Environmental Data (3)
ESCI 454 (F) Geographical Info Systems (3)
Or any approved computational course in CEVE/CAAM/ESCI

Area III Structural Engineering and Mechanics (select 6 approved hours)
CEVE 304 (S) Structural Analysis (3)
CEVE 405 (S) Steel Design (3)
CEVE 407 (F) Reinforced Concrete Design (3)
CEVE 408 (F) Structures Lab (1)
CEVE 427 (F) Matrix Methods in Structural Mechanics (3)
Or any approved structures/mechanics course in CEVE/MECH

Area IV Urban Infrastructure and Management (select 6 approved hours)
CEVE 201 (F) Urban and Environmental Systems (4)
CEVE 322 (F) Engineering Economics (3)
CEVE 452 (S) Urban Transportation Systems (3)
MGMT 750 (F) Management for Science and Engineering (3)
MGMT 751 (S) Management for Science and Engineering (3)
CEVE 470 (F) Infrastructure Geotechnical Engineering (4)
Or any approved Urban Infrastructure and Management course in CEVE/MGMT/ECON

List of Approved CEVE 500 Level Courses:
CEVE 511, 516, 518, 520, 521, 522, 527, 530, 531, 532, 533, 534, 536, 540, 550, 570, 576, 590
BA degree in Environmental Engineering Sciences

The BA degree in Environmental Engineering Sciences is designed to provide access to topics of common interest to students across the disciplines at Rice University. It is tailored to the specific needs of each student by discussion with and approval by the CEVE departmental advisor. An advisor will be assigned by the CEVE department chair, normally during the first year of study. Five core courses, plus seven courses in a focused specialty area (see below for example curricula) of study are required; total CEVE requirements approximately 39 hrs. In addition, each student is responsible for satisfying the university distribution requirements (24 hours) and additional electives for a total of at least 120 hours for graduation with a BA in Environmental Engineering Sciences. Although not required, students are encouraged to double major in their focus specialty area.

The coherent and complete core curriculum is designed to give Rice Undergraduate students a consistent technological literacy through the lens of Civil and Environmental Engineering and to prepare students for graduate school in engineering, various sciences (depending upon focus), economics, business MBA, political science, law, or medicine. Select students will be invited to finish an accelerated MS/PhD degree in the CEVE Department at Rice (meet with your advisor or department chair for details). Those students who want to obtain an ABET accredited engineering degree must follow a BS degree program in one of the engineering disciplines, including CEVE.

A student must demonstrate proficiency in the basic concepts of mathematics, computation, chemistry, and physics. Generally, this will require that these subjects were studied previously, e.g., AP exams, or concurrent enrollment with CEVE 101 or 201.

Seven (7) courses from approved electives, including four (4) courses from one specific focus area; four of these seven courses must be 300, or above, and two of these upper-division courses must be from the CEVE curriculum.

Five Core courses required for all BA Environmental Engineering Science majors:
- CEVE 101 Fundamentals of CEVE (3)
- CEVE 201 Urban and Environmental Systems (4)*
- CEVE 203 Environmental Engineering Processes 4*
- CEVE 401 Intro Environmental Chemistry (4)
- CEVE 412 Hydrology and Watershed Analysis (3)

* Courses with laboratories.

Typical “focus specialty areas” might include:
1. Environmental Engineering: CEVE 406, 411, 434; ESCI 451 + 3 approved electives
2. Chemical Engineering: CENG 301, 390, 401, 402; CEVE 411, 434, 443
3. Chemistry: CHEM 211, 212; CEVE 406, 511 + 3 approved electives
4. Economics: ECON 211, 212, 370, 450, 461; CEVE 406, 411
5. Management: ECON 211, 212, 461; ACCO. 305; POLI 336; CEVE 406, 411

Engineers Without Borders (E WB) is an important component of the CEVE program. This exciting new endeavor allows undergraduates to have an experience in a developing country where they are able to actually design and build a project to help society. Students have been attracted to the program in large numbers.

BA degree in Civil Engineering

The BA degree in Civil Engineering is designed to provide access to topics of common interest to students across the disciplines at Rice University. It is tailored to the specific needs of each student by discussion with and approval by the CEVE
Engineers Without Borders (EWB) is an important component of the CEVE program. This exciting new endeavor allows undergraduates to have an experience in a developing country where they are able to actually design and build a project to help society. Students have been attracted to the program in large numbers.

Required general math and science courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 101</td>
<td>Single Variable Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Single Variable Calculus II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 211</td>
<td>Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 101*</td>
<td>Mechanics with Lab</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 102*</td>
<td>Electricity and Magnetism with Lab</td>
<td>3</td>
</tr>
</tbody>
</table>

One of [COMP 110, CAAM 210, CAAM 335] 3

One of [BIOS 122, CHEM 121/122, ELEC 242, MECH200, MSCI 301] 3

* or equivalent

Total: 21 hrs

Any four civil engineering courses from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEVE 101</td>
<td>Fundamentals of CEVE</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 211</td>
<td>Engineering Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 311</td>
<td>Mechanics of Solids and Structures</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 312</td>
<td>Strength of Materials (^1)*</td>
<td></td>
</tr>
<tr>
<td>CEVE 371</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>

CEVE 312 Strength of Materials \(^1\)* Laboratory

Total: 13 hrs

Required core civil engineering courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEVE 202</td>
<td>Environmental Eng. Processes</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 304</td>
<td>Structural Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 322</td>
<td>Engineering Economics for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 405</td>
<td>Steel Design</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 407</td>
<td>Reinforced Concrete Design</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 412</td>
<td>Hydrology and Watersheds</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 427</td>
<td>Matrix Methods in Structural Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 452</td>
<td>Urban Transportation Systems</td>
<td>3</td>
</tr>
<tr>
<td>CEVE 470</td>
<td>Infrastructure Geotechnical Engineering</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 12 hrs

departmental advisor. An advisor will be assigned by the CEVE department chair, normally during the first year of study. For the BA degree in Civil Engineering the students must have a total of at least 120 hrs. A student must demonstrate proficiency in the basic concepts of mathematics, computation, chemistry, and physics. Generally, this will require that subjects studied previously, e.g., AP exams. The BA degree in Civil Engineering requires 21 hours of general math and science courses, 25 hours of core civil engineering courses, and 74 hours of electives (distribution courses 24 hrs and remaining open or free electives 50 hrs). Although not required, students are encouraged to double major in their focus specialty area.

The coherent and complete core curriculum is designed to give Rice Undergraduate students a consistent technological literacy through the lens of Civil and Environmental Engineering and to prepare students for graduate school in engineering. Those students who want to obtain an ABET accredited engineering degree must follow a BS degree in Civil Engineering program.
Degree Requirements for MCE, MEE, MES, MS, and PhD

Admission—Applicants pursuing graduate education in environmental engineering or hydrology should have preparation in mathematics, science, and engineering or related courses. A BS degree, or degree in Natural Science is preferred. Applicants pursuing graduate education in structural engineering, structural mechanics, and geotechnical engineering should have a BSCE 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. Applicants for graduate degrees should have a BS or BA 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 and Admission to Graduate Study (pages 56–58).

MS Program—The Master of Science degree is offered in both civil engineering and environmental engineering. For general university requirements, see Graduate Degrees (pages 57–58). To earn a MS 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. For students studying civil, structural engineering, and mechanics this must include one course each in structural engineering, mechanics, advanced mathematics, and dynamic systems (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 PhD degree program should note that the department does not grant an automatic MS degree to candidates who have not written a satisfactory master's thesis.

MCE Program—The Master of Civil Engineering (MCE) is a professional non-thesis degree requiring 30 hours of study. Students with a BS in Civil Engineering are eligible to apply. (see Graduate Degrees pages 57–58). To earn an MCE degree, students must complete 30 semester hours of approved courses.

MBA/MCE Program—For general university requirements, see Graduate Degrees (pages 57–58). See also Management and Accounting (pages 192–202). To earn a MBA/MCE degree, students must:

- Complete 24 semester hours of civil engineering courses
- Complete 52 semester hours of business administration courses

MEE Program—The Master of Environmental Engineering (MEE) is a professional nonthesis degree requiring 30 hours of study. Students who have a BS degree in any field of engineering may apply (see Graduate Degrees pages 57–58).

MES Program—The Master of Environmental Science (MES) is a professional nonthesis degree requiring 30 hours of study. To enter the MES program, applicants must have a BA or BS degree in any of the natural or physical sciences (see Graduate Degrees pages 57–58).
PhD Program—To earn a PhD degree, 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 past BS (60 semester hours past MS) with high standing.
- Pass a preliminary written examination in civil and environmental engineering.
- 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.

PhD candidates in civil and environmental engineering 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.
The School of Humanities

Degree Offered: BA

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 BA in Classical Studies

For general university requirements, see Graduation Requirements (pages 14–15).

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.
Cognitive Sciences

The School of Social Sciences

Degree Offered: BA

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. Some investigators focus on relations between brain structures and behavior, some work with computer simulation, and others work at more abstract theoretical levels.

Degree Requirements for BA in Cognitive Sciences

For general university requirements, see Graduation Requirements (pages 14–15). Students majoring in cognitive sciences must complete 5 core courses and 7 additional courses (see below). Among the 7 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: LING200, PHIL103, PSYC101, or PSYC203.

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 proceeding 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. Proposal 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 final paper to both their advisor and the program director and make an oral presentation. For more details, contact the program director.

**Independent Research**

Majors may undertake supervised independent research by enrolling in CSCI390 or the honors program, and may apply up to 9 credits of independent research towards the major. Students who wish to take CSCI390 must complete a CSCI390 contract and have it approved by their supervisor and the program director prior to the end of the first week of classes. All students taking CSCI390 must also write a substantive research paper, which is to be submitted to both their advisor and the program director at the end of the semester. (Copies of the contract form and instructions are available on the ‘forms’ section of the cognitive sciences website.)

**Core Courses**

The core courses are divided into five groups. Majors just take one course from each group.

**Computer Science**
- CAAM 210 Introduction to Engineering Computation
- 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 306 Language and the Mind
- LING 315 Semantics

**Philosophy**
- PHIL 105 Philosophical Aspects of Cognitive Science
- PHIL 305 Mathematical Logic
- PHIL 312 Philosophy of Mind

**Advanced Psychology**
- PSYC 308 Memory
- PSYC 309 Psychology of Language
- PSYC 351 Psychology of Perception
- PSYC 360 Thinking
- PSYC 362 Biopsychology
- PSYC 430 Computational Modeling of Cognitive Processes
- PSYC 432 Brain and Behavior

**Additional Courses**

At least 3 and no more than 4 must be in one of the following areas of concentration: linguistics, philosophy, psychology, or neuroscience. Note: you may not use the same courses to fulfill both a core course requirement and an additional course requirement; in other words, no double counting.

**Cognitive Sciences**
- CGSCI 390 Supervised Research in Cognitive Science
- CSCI 481 Honors Project
- CSCI 482 Honors Project

**Computer Science**
- COMP 210 Introduction to Principles of Scientific Computation

**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

**Philosophy**
- PHIL 105 Philosophical Aspects of Cognitive Science
- PHIL 305 Mathematical Logic
- PHIL 312 Philosophy of Mind

**Advanced Psychology**
- PSYC 308 Memory
- PSYC 309 Psychology of Language
- PSYC 351 Psychology of Perception
- PSYC 360 Thinking
- PSYC 362 Biopsychology
- PSYC 430 Computational Modeling of Cognitive Processes
- PSYC 432 Brain and Behavior

**Comp 212 Intermediate Programming**
- COMP 440 Artificial Intelligence
- COMP 450 Algorithmic Robotics

**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 404 Research Methodologies and Linguistic Theories
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
CAAM 415 Theoretical Neuroscience
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 (first 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**
ANTH 406 Cognitive Studies in Anthropology and Linguistics
ELEC 201 An Introduction to Engineering Design
ELEC 498 Introduction to Robotics
STAT 300 Model Building
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 (MCAM), for persons interested in practicing within this field, emphasizes general applied mathematics, operations research and optimization, and numerical analysis, while the MA and PhD 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 (CSE) addresses the current need for sophisticated computation in both engineering and the sciences. Such computation requires an understanding
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 MBA/Master of Engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

**Degree Requirements for BA in Computational and Applied Mathematics**

For general university requirements, see Graduation Requirements (pages 14–15). 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

- MATH 101 *Single Variable Calculus I*  
- MATH 102 *Single Variable Calculus II*  
- MATH 212 *Multivariable Calculus*

**Intermediate Courses:** Typically completed by the end of the third year

- CAAM 210 *Introduction to Engineering Computation*
- CAAM 335 *Matrix Analysis*
- CAAM 336 *Differential Equations in Science and Engineering*  
- CAAM 378 *Introduction to Operations Research and Optimization*  
- CAAM 401 *Analysis I*
- CAAM 402 *Analysis II*

**Advanced Courses:** Typically completed during the fourth year

- CAAM 453 *Numerical Analysis I*  
- CAAM 454 *Numerical Analysis II*

**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:**

- CAAM 415 *Theoretical Neuroscience*  
- CAAM 420 *Computational Science I*  
- CAAM 436 *Partial Differential Equations of Mathematical Physics*  
- CAAM 460 *Optimization Theory*

- MATH 423 *Partial Differential Equations*  
- MATH 425 *Real Analysis*  
- MATH 427 *Complex Analysis*  
- STAT 431 *Overview of Mathematical Statistics*

**Degree Requirements for MCAM, MA, and PhD 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 57–58) and Admission to Graduate Study (pages 56–57).

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.

**MCAM Program**—This professional degree program emphasizes the applied aspects of mathematics. The MCAM degree requires satisfactory completion of at least 30 semester hours of course work approved by the department.

**MA Program**—For an MA 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 PhD, successful performance on the master's thesis may fulfill the PhD thesis proposal requirements upon approval by the thesis committee.

**PhD Program**—For a PhD 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 MCSE and PhD in Computational Science and Engineering**

**CSE 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 (CSE). 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 CSE 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.

**MCSE 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 57–58).

**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

For the MCSE 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 CSE 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.

**PhD Program**—Study at the doctoral level seeks to advance the field through original research. For general university requirements, see Graduate Degrees (pages 57–58). For the PhD 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
Lydia Kavraki
Kenneth W. Kennedy, Jr.
Devika Subramanian
Moshe Y. Vardi
Joe D. Warren

Adjunct Professors
Wah Chiu
Jack Dongarra
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
Luay Nakhleh
Eugene Ng

Joint Appointments
(with Electrical and Computer Engineering)
Professor
J. Robert Jump

Associate Professors
Joseph Cavallaro
Edward Knightly
Peter Varman

Adjunct Assistant Professor
Vikram Adve

Senior Faculty Fellow
John Mellor-Crummey

Research Scientists
Ian Barland
Zoran Budimlic
Robert Fowler
Richard Hanson
Timothy Harvey
Guohua Jin
Charles Koelbel
Linda Torczon

Lecturers
John Greiner
Dung “Zung” Nguyen
Stephen Wong

Postdoctoral Research Associate
Doron Bustan
Arun Chauhan
Daniel Chavarria-Miranda
Mark Moll
Joël Ouaknine
Kedar Swadi

Assistant Professor
Vijay Pai
Yehia Massoud
Kartik Mohanram

(with Chemistry)
Professor
James Tour

Degrees Offered: BA, BSCS, MCS, MS, and PhD

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
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 (BA) and the Bachelor of Science in Computer Science degree (BSCS). The department offers two master’s degrees: the professional Master of Computer Science degree (MCS) and the research-oriented Master of Science degree (MS). The department also offers a doctoral degree (PhD).

A joint MBA/Master of Engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

**Degree Requirements for BA in Computer Science**

For general university requirements, see Graduation Requirements (pages 14–15). 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 BA 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

- MATH 101/102 Single Variable Calculus I and II
- COMP 210 Introduction to Principles of Scientific Computation
- COMP 212 Intermediate Programming
- COMP 280 Mathematics of Computer Science
- 1 course from the following:
  - MATH 211 Ordinary Differential Equations and Linear Algebra
  - MATH 221 Honors Calculus III
  - 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 314 Applied Algorithms and Data Structures
- COMP 320 Introduction to Computer Organization
- 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 BS in Computer Science**

The BS 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 BS degree, a student must complete all the requirements of the BA 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. BS 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 departmental advisers. The computer science requirements of the BS degree total 80 to 82 semester hours. For a BS degree in computer science, a total of 128 semester hours is required.

**Degree Requirements for MCS and MS in Computer Science**

For general university requirements, see Graduate Degrees (pages 57–58). The professional MCS degree is a terminal degree for students intending to pursue a technical career in the computer industry. To earn the MCS 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 MCS 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 MCS 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 MS degree is a research degree requiring a thesis in addition to course work.

**Degree Requirements for PhD in Computer Science**

The PhD 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 PhD 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 PhD program
- Conduct original research, submit an acceptable PhD thesis proposal, and successfully defend the thesis proposal
- Submit an acceptable PhD 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 PhD degree.

**Financial Assistance**—Fellowships and research assistantships are available to students in the PhD 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. PhD 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.
Earth Science

The Wiess School of Natural Sciences

Chair
Alan Levander

Professors
John B. Anderson
Hans G. Avé Lallemant
Richard G. Gordon
William P. Leeman
Dale S. Sawyer
Manik Talwani

Associate Professors
Gerald R. Dickens
André W. Droxler
Andreas Luttge
Colin A. Zelt

Assistant Professors
Cin-Ty Lee
Adrian Lenardic
Julia Morgan
Fenglin Niu

Adjunct Professors
K. K. Bissada
Stephen H. Danbom
Jeffrey J. Dravis
Paul M. Harris
Thomas A. Jones
John C. Van Wagoner
Gerard M. Wellington
James L. Wilson

Adjunct Associate Professor
W. C. Rusty Riese

Adjunct Assistant Professors
Vitor Abreu
Alan D. Brandon
Stephanie S. Shipp
Gabor Tari
Robert W. Wellner
Yitian Xiao

ESCI Degrees Offered: BA, BS, MS, PhD
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, BA or BS, and, for the BS 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 BS in earth science degree should be chosen by students planning a career or further study in earth science or a related field. The BA 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.

Degree Requirements for BS in Earth Science
For general university requirements, see Graduation Requirements (pages 14–15). BS 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
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:
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 one of the following courses:
ESCI 412 Advanced Petrology
ESCI 430 Principles of Trace-Element and Isotope Geochemistry

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 Paleogeology

Choose one of the following courses:
ESCI 446 Solid Earth Geophysics
ESCI 442 Exploration Geophysics I

Choose one of the following courses:
ESCI 463 Advance Structural Geology
ESCI 428 Geologic Interpretation of Reflection Seismic Profiles
ESCI 464 Global Tectonics

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 421 Paleoceanography
ESCI 458 Thermodynamics/Kinetics for Geoscientists
ESCI 203 Biogeochemistry
ESCI 430 Principles of Trace-Element and Isotope Geochemistry

Choose 9 hours from the following:
All upper division ESCI courses
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

CEVE 534 Transport Phenomena and Environmental Modeling
CEVE 550 Environmental Organic Chemistry
BIOS 202 Introductory Biology
BIOS 211 Introductory Lab Module in Biological Science
CHEM 211/212 Organic Chemistry
CHEM 311/312 Physical Chemistry
CHEM 415 Chemical Kinetics and Dynamics
CHEM 495 Transition Metal Chemistry
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
COMP 110 Computation Science and Engineering
CAAM 210/211 Introduction to Engineering Computation
COMP 210 Introduction to Principles of Scientific Computing
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:
ESCI 451 Analysis of Environmental Data
ESCI 353 Environmental Geochemistry
ESCI 442 Exploration Geophysics
ESCI 454 Geographic Information Science
ESCI 463 Advanced Structural Geology I
ESCI 504 Clastics
ESCI 506 Carbonates
ESCI 568 Paleoclimates and Human Response
CEVE 306 Global Environmental Law and Sustainable Development
CEVE 434 Chemical Transport and Fate in the Environment
CEVE 412 Hydrogeology and Watershed Analysis
CEVE 401 Environmental Chemistry
CHEM 211 Organic Chemistry
CHEM 311 Physical Chemistry
CHEM 360 Inorganic Chemistry
PHYS 201 Waves and Optics
PHYS 231 Elementary Physics Lab II
BIOS 202 Introductory Biology II
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:
BIOS 201 Introductory Biology I
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
CHEM 311/312 Physical Chemistry I and II
MATH 211 Ordinary Differential Equations and Linear Algebra

MATH 212 Multivariable Calculus
PHYS 201 Waves and Optics
PHYS 203 Atmosphere, Weather, and Climate
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 BA in Earth Science
For general university requirements, see Graduation Requirements (pages 14–15).

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 26).
Degree Requirements for MS and PhD 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 57–58). The requirements for the MS and PhD in earth science are similar, but the PhD 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 MS and at least two years beyond the MS degree for the PhD.

Candidates determine, with their major professor and thesis 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 PhD, 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 PhD.

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.
ECONOMICS

THE SCHOOL OF SOCIAL SCIENCES

CHAIR
Peter Hartley

PROFESSORS
Dagobert L. Brito
Bryan W. Brown
James N. Brown
John B. Bryant
Mahmoud El-Gamal
Malcolm Gillis
Simon Grant
Peter Mieszkowski
Hervé Moulin
Joon Park
Robin C. Sickles
Ronald Soligo
George R. Zodrow

PROFESSORS EMERITI
Donald L. Huddle
Gordon W. Smith

ASSOCIATE PROFESSORS
Yoosoon Chang
Marc Peter Dudey
Vivian Ho

ASSISTANT PROFESSORS
Anna Bogomolnaia
Juan Carlos Cordoba

ADJUNCT PROFESSORS
Bruce M. Lairson
John Michael Swint

ADJUNCT ASSOCIATE PROFESSOR
Charles E. Begley

DEGREES OFFERED: BA, MA, PhD

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 BA 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
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 355 Financial Markets and Institutions  ECON 451 The Political Economy of Latin America
ECON 375 Macroeconomic Theory  ECON 452 Principles of Islamic Economics
ECON 415 Labor Economics  ECON 455 Money and Financial Markets
ECON 420 International Economics  ECON 461 Urban Economics
ECON 421 International Finance  ECON 472 Introduction to Game Theory
ECON 435 Industrial Organization  ECON 480 Environmental and Energy Economics
ECON 436 Government Regulation of Business  ECON 481 Health Economics
ECON 437 Energy Economics  ECON 482 Distributive Justice—A Microeconomic Approach
ECON 438 Economics of Law  ECON 483 Public Finance—Tax Policy
ECON 439 Torts, Property, and Contracts  ECON 484 Public Expenditure Theory and Social Insurance
ECON 440 Risk, Uncertainty and Information  ECON 485 Contemporary Economic Issues
ECON 445 Managerial Economics  ECON 486 Contemporary Economic Issues
ECON 448 Corporate Finance  ECON 495 Senior Seminar
ECON 449 Basics of Financial Engineering
ECON 450 World Economic and Social Development

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  CAAM 336 Differential Equations in Science and Engineering
ECON 400 Econometrics  CAAM 353 Computational Numerical Analysis
ECON 446 Applied Econometrics and Economic Modeling  CAAM 376 Introduction to Management Science
ECON 475 Integer and Combinatorial Optimization  CAAM 378 Introduction to Operations Research
ECON 477 Mathematical Structure of Economic Theory  CAAM 400 Case Studies in Applied Mathematics
ACCO 305 Introduction to Accounting  CAAM 435 Ordinary Differential Equations
CAAM 210 Introduction to Engineering Computation  CAAM 436 Partial Differential Equations I
CAAM 211 Introduction to Engineering Computation  CAAM 437 Partial Differential Equations II
CAAM 321 Introduction to Real Analysis  CAAM 451 Numerical Linear Algebra
CAAM 322 Introduction to Real Analysis II  452 Computational Methods for Differential Equations
CAAM 335 Matrix Analysis  CAAM 453 Numerical Analysis and Ordinary Differential Equations
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 14–15). 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:

(a) 5 courses in Economic Principles:
ECON 211 Principles of Economics I
ECON 212 Principles of Economics II
ECON 370 Microeconomic Theory
ECON 477 Mathematical Structure of Economic Theory
ECON 375 Macroeconomic Theory

(b) 3 courses in Applied Economics, selected from the following:
ECON 355 Financial Markets and Institutions
ECON 415 Labor Economics
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 Energy Economics
ECON 438 Economics of Law
ECON 439 Torts, Property, and Contracts
ECON 440 Financial Theory
ECON 445 Managerial Economics
ECON 446 Applied Econometrics and Economic Modeling
ECON 448 Corporate Finance
ECON 449 Basics of Financial Engineering
ECON 450 World Economic and Social Development
ECON 451 The Political Economy of Latin America
ECON 452 Principles of Islamic Economics
ECON 455 Money and Financial Markets
ECON 461 Urban Economics
ECON 472 Introduction to Game Theory
ECON 480 Environmental and Energy Economics
ECON 481 Health Economics
ECON 482 Distributive Justice—A Microeconomic Approach
ECON 483 Public Finance—Tax Policy
ECON 484 Public Expenditure Theory and Social Insurance
ECON 485 Contemporary Economic Issues
ECON 486 Contemporary Economic Issues

(c) 1 additional 400-level course in Applied Economics as listed in (b) or a course in advanced analysis, selected from the following:
ECON 475 Integer and Combinatorial Optimization
CAAM 451 Numerical Linear Algebra
CAAM 452 Computational Methods for Differential Equations
CAAM 453 Numerical Analysis and Ordinary Differential Equations
CAAM 454 Optimization Problems in Computational Engineering and Science
CAAM 460 Optimization Theory
CAAM 471 Linear Programming
CAAM 474 Theory of Linear Inequalities
CAAM 475 Integer and Combinatorial Optimization
CAAM 483 Markov and Martingale Sequences—Renewal Processes
STAT 421 Introduction to Time Series Analysis
STAT 450 Practicum in Statistical Modeling
STAT 486 Market Models
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

(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 or MATH 355 Linear Algebra or CAAM 335 Matrix Analysis
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 or 496 Senior Seminar or ECON 403 or 404 Senior Independent Research
• 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 PhD 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 MA Program
Advanced undergraduate students can, subject to the approval of the departmental five-year MA adviser, enter our five-year MA 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 MA in economics.

To obtain the MA degree, students must satisfy all of the requirements for PhD 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 PhD 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 MA adviser.

Note that any student who subsequently decides to enter the economics PhD program at Rice would be given graduate credit for all 500 level economics courses completed while an undergraduate. The completion of the PhD dissertation typically requires at least one additional year of research (but no additional courses) beyond the MA degree.

Students who opt for the five-year MA 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 MA 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 MA program.

<table>
<thead>
<tr>
<th>Freshman Year</th>
<th>Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 370, 375, 477, and MATH 211/212</td>
<td>ECON 403/404 and ECON 508</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore Year</th>
<th>Fifth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 501; 1 course from Applied Economics category; and MATH 355 or CAAM 310</td>
<td>Complete all remaining graduate courses and pass all remaining examinations required to achieve PhD candidacy.</td>
</tr>
</tbody>
</table>

(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.)

<table>
<thead>
<tr>
<th>Junior Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 502, 504, 505, 510, and 1 course from Applied Economics category</td>
<td></td>
</tr>
</tbody>
</table>
Courses: Sample Path Two
The student has no relevant AP credit and/or decides to enter the five-year MA 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 PhD candidacy.

Degree Requirements for PhD in Economics

**Preparation for PhD Program.** Applicants to the PhD 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 76–77) 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 57–58). Candidates for the PhD 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 PhD, 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 (MAT)
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
Electrical and Computer Engineering

The George R. Brown School of Engineering

Chair
Behnaam Aazhang

Professors
Behnaam Aazhang
Athanasios C. Antoulas
Richard G. Baraniuk
Joseph R. Cavallaro
John W. Clark, Jr.
Naomi J. Halas
Don H. Johnson
Erzsébet Merényi
Michael Orchard
Frank K. Tittel
William L. Wilson, Jr.
James F. Young

Professors Emeriti
J. Robert Jump
James Boyd Pearson, Jr.
Thomas A. Rabson

Associate Professors
Edward W. Knightly
Daniel Mittleman
Peter J. Varman

Assistant Professors
Kevin Kelly
Junichiro Kono
Yehia Massoud
Kartik Mohanram
Vijay Pai

Faculty Fellows
Hyeokho Choi
Ashutosh Sabharwal

Adjunct Faculty
Richard Barton
Akhil Bidani
John Byrne
Scott Cutler
Anand Dabak
Wayne Giles
Thomas Harman
Dirar Khoury
Jorma Lilleberg
Richard P. Massey
Robert Nowak
Steve Sheafor
Markus Sigrist
Michael Smayling
Thanh Tran

Lecturers
Katherine Fletcher
Osama Mawlawi
James B. Sinclair
James D. Wise

Degrees Offered: BA, BSEE, MEE, MS, PhD

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 (BA) and the Bachelor of Science in Electrical Engineering (BSEE). The BA program is highly flexible, permitting a student to tailor the program to his or her interests, be they broad or highly focused. The BSEE degree is approved by the Accreditation Board for Engineering and Technology (ABET); requires more scientific and professional courses, for a total of at least 13½ 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 BA 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 BA 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 BSEE 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 BSEE degree requires greater depth than the BA 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
- 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
- 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

Quantum Electronics

PHYS 202 Quantum Mechanics
ELEC 306 Electromagnetic Fields and Devices
ELEC 361 Electronic Materials and Quantum Devices
ELEC 462 Semiconductor Devices
ELEC 463 Lasers and Photonics
ELEC 465 Physical Electronics Practicum
ELEC 561 Semiconductor Manufacturing
ELEC 563 Introduction to Solid-State Physics

The department may add or delete courses from these lists from time to time. At least one of the specialization courses must be an approved design course. 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 project.

**Degree Requirements for BA in Electrical and Computer Engineering**

For general university requirements, see Graduation Requirements (pages 14–15). Students completing the BA program must have a total of at least 120 semester hours at graduation.

**Basic Mathematics and Science**—Students in the BA 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 BA 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 BS in Electrical Engineering**

For general university requirements, see Graduation Requirements (pages 14–15). Students completing the BSEE 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 BSEE program choose courses from 2 or more specialization areas listed above. Students must take at least 7 specialization 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 MEE, MS, and PhD in Electrical and Computer Engineering**

For general university requirements, see Graduate Degrees (pages 57–58). Students should also consult department advisers for specific courses of study.
**Master's Degree Programs**—A candidate for the professional MEE 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 MS degree is not a terminal degree but part of the PhD program. A candidate for the MS degree must complete both an approved course of study and an approved research program, culminating in an acceptable thesis.

A joint MBA/Master of Engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

**PhD 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 MS degree as part of the PhD program. For the PhD, 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.
ENGLISH

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 E. 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 Lamos
Susan Lurie

Assistant Professors
Krista Comer
Elizabeth A. Dietz
Sarah Ellenbogen
Kirsten Ostherr

Writer in Residence
Amber P. Dermont
Marsha Recknagel

Lecturers
Jill “Thad” Logan
Mary L. Tobin

Lecturers on Theatre
Jason Foreman
Trish Rigdon

Visiting Professors
Rita Raley

Degrees Offered: BA, MA, PhD

The undergraduate program offers opportunities for students to explore and appreciate it critically, while improving their expository writing skills. 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 BA 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 MA and PhD in English**

For general university requirements, see Graduate Degrees (pages 57–58). 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.

**MA Program**—The English department does not have an MA program, but offers the MA degree to those PhD students who have achieved candidacy and are in the process of completing their doctorate and to qualified PhD students who leave the program before completing their doctorate. To receive an MA students must:

• Satisfactorily complete at least 30 hours of graduate work in English at Rice University. Courses must be those that count towards the PhD 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. Students must satisfactorily complete ENGL 600 and distribution requirements for the PhD (see below).

• Satisfactorily complete two teaching assistantships (ENGL 601/602). These do not count toward the 30-hour requirement.

**PhD Program**—To gain admission to PhD 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 PhD 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.


Financial Support—Within the limits of available funds, qualified students may receive graduate scholarships or fellowships for up to five years. To qualify for this continuing financial aid, students must be approved for candidacy for the PhD by the beginning of their ninth semester at Rice (fifth semester for those entering with an MA).

See ENGL and THEA in the Courses of Instruction section.
Degrees Offered: MS

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 MS in Environmental Analysis and Decision Making

In addition to the core science courses, students are required to complete a three- to six-month internship and take a set of cohort courses focusing on business and communications. At the conclusion of the internship, students must present a summary of their internship project in both oral and written form as part of the Professional Master’s Seminar.

Part-time students who already work in their area of study may fulfill the internship requirements by working on an approved project with their current employer. For general university requirements for graduate study, see pages 56-58, and see also Professional Degrees, page 58.

Admission

Admission to graduate study in environmental analysis and decision making is open to qualified students holding a bachelor's degree in a related field that includes general biology, chemistry, calculus, differential equations, and linear algebra.
Department faculty evaluate the previous academic record and credentials of each applicant individually.

**Science core courses**
CEVE 401 Introduction to Environmental Chemistry with lab (F)
ESCI 450 Remote Sensing (S)
STAT 685 Quantitative Environmental Decision Making (S)

**Plus a single course from each of the following:**

**Group A**
ESCI 451 Analysis of Environmental Data (F)
STAT 305 Introduction to Statistics for Biosciences (F, S)

**Group B**
STAT 385 Methods for Data Analysis (S)
STAT 410 Introduction to Statistical Computing and Linear Models (F)

**Cohort Courses**
MGMT 750 Management in Science and Engineering (F)
NSCI 501 Professional Master’s Seminar (F, S) [required for two semesters]
NSCI 511 Science Policy and Ethics (S)

**Internship**
An internship under the guidance of a host company, government agency, or national laboratory. A summary of the internship project is required in both oral and written form as part of the Professional Master’s Seminar.

**Elective Courses**

*Note: Each of these electives is not offered every year, and some courses may have prerequisites or require instructor permission.*

Students will choose five elective courses, three of which should be from one of the focus areas. At least one elective should be from the management and policy focus area. Recommended courses include, but are not limited to, the following:

**Sustainable Development**
BIOS 322 Global Ecosystem Dynamics (S)
BIOS 325 Ecology (S)
CEVE 406 Introduction to Environmental Law (S)
CEVE 411 Air Resource Management (S)
CEVE 434 Chemical Transport and Fate in Environment (F)
ECON 480 Environmental Economics (S)
ESCI 353 Environmental Geochemistry (S)
MGMT 617 Managerial Decision Making (S)
MGMT 661 International Business Law (S)
MGMT 674 Production and Operations Management (F)

**Management and Policy**
CEVE 406 Introduction to Environmental Law (S)
ECON 480 Environmental Economics (S)
ENG 303 / CEVE 322 Engineering Economics for Engineers (F)
MGMT 721 General Business Law (S)
MGMT 661 International Business Law (S)
MGMT 617 Managerial Decision Making (S)
MGMT 751 New Venture Creation in Science and Engineering (S)

STAT 421 Computational Finance II: Time Series Analysis (S)
STAT 422 Bayesian Data Analysis (S)
STAT 509 Advanced Psychological Statistics I (F)

**Group C**
CEVE 411 Air Resource Management (S)
CEVE 412 Hydrology and Watershed Analysis (S)
CEVE 434 Chemical Transport and Fate in the Environment (F)
CEVE 511 Atmospheric Chemistry and Physics (F)
CEVE 550 Environmental Organic Chemistry (S)
MGMT 674 Production and Operations Management (F)
MGMT 676 Project Management/Project Finance (S)
MGMT 636 Systems Analysis and Database Design
SOCI 367 Environmental Sociology (S)

**Biological Sciences**
BIOS 322 Global Ecosystem Dynamics
BIOS 324 Wetland Ecosystems
BIOS 325 Ecology
BIOS 424 Microbiology and Biotechnology
BIOS 425 Plant Molecular Biology (F)
CEVE 536 Environmental Biotechnology
ESCI 468 Climate Change and Human Civilization (S)

**Chemistry**
CENG 630 Chemical Engineering of Nanostructured Materials (S)
CEVE 511 Atmospheric Chemistry and Physics (F)
CEVE 550 Environmental Organic Chemistry (S)
ESCI 355 Environmental Geochemistry (S)

**Fluid Dynamics and Transport**
CENG 571 Flow and Transport in Porous Media I (S)
CENG 671 Flow and Transport in Porous Media II (F)
MECH 371 Fluid Mechanics I (F)
MECH 372 Fluid Mechanics II (S)
MECH 454/554 Finite Element Methods in Fluid Mechanics (F)

**Engineering**
CEVE 411 Air Resource Management (S)
CEVE 434 Chemical Transport and Fate in the Environment (F)
CEVE 550 Physical/Chemical Processes in Environmental Engineering (S)
CEVE 640 Advanced Topics in Environmental Engineering (F)

**Advanced Computation**
CAAM 378 Introduction to Operations Research and Optimization (F)
CAAM 420 Computational Science I (F)
CAAM 451 Numerical Linear Algebra (F)
CAAM 452 Computational Methods for Differential Equations (S)
CAAM 454 Optimization Problems in Computational Engineering and Science (S)
ESCI 441 Geophysical Data Analysis (F)
ESCI 451 Analysis of Environmental Data (F)
ESCI 454 Geographic Information Systems (F)
MECH 454/554 Finite Element Methods in Fluid Mechanics (F, S)
MECH 343 Modeling of Dynamic Systems (F)
MECH 417/517 Finite Element Analysis (S)
MECH 420 Feedback Control of Dynamical Systems (F)
MECH 563/ CAAM 563 Engineering Approach to Mathematical Programming (F)
MECH 679 / CEVE 679 Applied Monte Carlo Analysis (F)
STAT 421 Methods in Computational Finance II (S)
STAT 422 Bayesian Data Analysis (S)
STAT 431 Mathematical Statistics (F)
STAT 540 Practicum in Statistical Modeling (S)
STAT 541 Multivariate Analysis (S)
STAT 546 Design and Analysis of Experiments and Sampling Theory
STAT 553 Biostatistics (S)
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 interdisciplinary 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 the coordinator of the Center for the Study of Environment and Society.

Courses:
ENST 101 The Sustainable Environment
ENST 113 Environmental Crisis Seminar
ENST 301 Introduction to the Environment
ENST 302 Environmental Issues—Rice into the Future
ENST 400 Independent Study

See ENST in the Courses of Instruction section.

Degree Requirements for BA in Environmental Science

Environmental Science is an interdisciplinary program that addresses environmental issues in the context of what we know about earth, ecology, and society. In addition to its science core, the major also seeks to provide students with some appreciation of social, cultural, and policy dimensions of environmental issues, as well as exposure to the technologies of pollution control. The double major is designed to accommodate:

- Students wishing to obtain a solid preparation for later graduate study in environmental science or other careers as environmental professionals (e.g., environmental economics, or environmental law)
- Students pursuing other careers (e.g., historians, lawyers, mechanical engineers, chemists) who hope to contribute to solutions to one of the major global issues of the 21st Century.

Students may take environmental science only as a second major. The 67-semester-hour (minimum) double major in environmental science may be taken in conjunction with any stand-alone major offered in any school of the university.
The key components of the double major include:

- Foundation course work in mathematics, physics, chemistry, and biology
- 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 stress the components of the global environment and their interactions.
- 24 semester hours of environmental electives from four categories (1) social sciences and economics, (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.

Major tracking forms are available in the Center for the Study of Environment and Society (CSES) office for declared Environmental Science majors.

Specific Course Requirements for a Double Major (BA) in Environmental Science include:

**General Prerequisites**

- CHEM 121 or 151 General Chemistry with Laboratory
- CHEM 122 or 152 General Chemistry with Laboratory
- MATH 101 or 111 Single Variable Calculus I
- MATH 102 or 112 Single Variable Calculus II
- PHYS 101 or 125 or 111 Mechanics
- PHYS 102 or 126 or 112 Electricity and Magnetism
- BIOS 201 Introductory Biology
- BIOS 202 Introductory Biology

**Core Courses**

- BIOS 325 Ecology
- ESCI 221 Earth System Evolution and Cycles
- CEVE 411 Air Resource Management
- PHYS 443 Atmospheric Science

**One of the following two courses**

- CEVE 401 Introduction to Environmental Chemistry
- ESci 451 Analysis of Environmental Data

**2 of the following 3 courses**

- CEVE 306 Global Environmental Law and Sustainable Development
- CEVE 406 Environmental Law
- ECON 480 Environmental and Natural Resource Economics
- ENST 302/UNIV 303 Environmental Issues: Rice into the Future
- POLI 317 Congress
- POLI 331 Environmental Politics and Policy
- POLI 332 Urban Politics
- POLI 334 Political Parties and Interest Groups
- SOCI 331 Demography
- SOCI 367 Environmental Sociology
- SOCI 411 Social Change: Making Sense of Our Times

**Advanced Electives (24 hours; at least 6 semester hours from each category)**

**Category A—Social Sciences and Economics**

- CEVE 306 Global Environmental Law and Sustainable Development
- CEVE 406 Environmental Law
- ECON 480 Environmental and Natural Resource Economics
- ENST 302/UNIV 303 Environmental Issues: Rice into the Future
- POLI 317 Congress
- POLI 331 Environmental Politics and Policy
- POLI 332 Urban Politics
- POLI 334 Political Parties and Interest Groups
- SOCI 331 Demography
- SOCI 367 Environmental Sociology
- SOCI 411 Social Change: Making Sense of Our Times

**Category B—Humanities and Architecture**

- ANTH 468/ESCI 468 Climate Variability and Human Response
- ARCH 313 Sustainable Architecture
- ARCH 351 Social Issues and Architecture
- ENGL 367 American Ecofeminism
- ENGL 378 Literature and the Environment
- ENST 301/UNIV 300 Introduction to the Environment: Environmental History and Literature

**Category C—Natural Sciences**

- BIOS 316 Lab Module in Ecology
- BIOS 321 Animal Behavior
- BIOS 322 Global Ecosystem Dynamics
- BIOS 324 Wetland Ecosystems
- BIOS 334 Evolution
CHEM 211 *Organic Chemistry*
CHEM 395 *Advanced Module in Green Chemistry*
ESCI 323 *Earth Structure and Deformation*
ESCI 326 *Environmental Geology*
ESCI 353 *Environmental Geochemistry*
ESCI 421 *Paleoceanography*
ESCI 430 *Trace Element and Isotope Geochemistry for Earth and Environmental Sciences*
ESCI 442 *Exploration Geophysics*
ESCI 454 *Geographic Information Science*
ESCI 468/ANTH 468 *Climate Variability and Human Response*

**Category D—Engineering**

CENG 503 *Chemical Engineering Process I: Air Pollution Control*
CEVE 201 *Introduction to Environmental Systems*

CEVE 401 *Introduction to Environmental Chemistry*
CEVE 403 *Principles of Environmental Engineering*
CEVE 411 *Air Resources Management*
CEVE 412 *Hydrology and Watershed Analysis*
CEVE 434 *Chemical Transport and Fate in the Environment*
CEVE 451 *Introduction to Transportation*
CEVE 470 *Basic Soil Mechanics*
CEVE 490 *Undergraduate Research in Environmental Engineering*
STAT 300 *Model Building*
STAT 305 *Introduction to Statistics for the Biosciences*
STAT 310 *Probability and Statistics*
STAT 339/PSYC 339 *Statistical Methods—Psychology*
French Studies

The School of Humanities

Chair
Michel Achard

Professors
Bernard Aresu
Jean-Joseph Goux
Lynne Huffer
Deborah Nelson-Campbell

Professor Emerita
Madeleine Alcover

Associate Professors
Michel Achard
Deborah A. Harter
Philip R. Wood

Assistant Professor
Louisa Shea

Visiting Assistant Professor
Julie Fette

Degrees Offered: BA, MA, PhD

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 BA in French Studies

For general university requirements, see Graduation Requirements (pages 14–15). 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 Workshop

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 MA and PhD 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 57–58).

**MA Program**—In most cases students take two years to complete work for the MA 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. MA candidates must:

- Complete with satisfactory standing 27 semester hours (in addition to BA 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 MA committee. The selection of the paper topics must receive preliminary approval from the examination committee.
- 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

**PhD Program**—Candidates normally take 500-level courses, but students entering with a BA may count toward their PhD degree as many as 3 courses at the 400 level; those entering with an MA 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 PhD 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 MA 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.
• 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
John Zammito

ASSOCIATE PROFESSORS
Maria-Regina Kecht

PROFESSORS
Peter Caldwell

Uwe Steiner

Steven Crowell

Sarah Westphal

Margret Eifler

ASSISTANT PROFESSOR
Ewa M. Thompson

Christian Emden

Klaus Weissenberger

Degrees Offered: BA in German Studies, BA 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 BA 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 BA in German Studies

For general university requirements, see Graduation Requirements (pages 14–15). Students who have German as their only major must complete at least 27 semester hours above the 200 level. These 27 hours above 200 level = 8 three hour courses + 3 one-hour FLAC sections

- GERM 303 or 304 (bridge course in German literary/cultural language)
- GERM 411, 412 (basic German literature survey courses)
- 2 Special Topics Seminars (GERM 351 to any other 400-level Special Topics)
- 3 Mapping German Culture courses with attached one-hour FLAC sections (GERM 321–350)
- Option: GERM 303: Composition and Conversation I may be substituted for any one of the above courses except 304, 411, and 412.
Students who have German as a double major must complete at least 20 semester hours above the 200 level. These 20 hours above 200 level = 6 three-hour courses + 2 one-hour FLAC sections.

- GERM 303 or 304 (bridge course in German literary/cultural language)
- GERM 411, 412 (basic German literature survey courses)
- 1 Special Topics Seminar (GERM 351 to any other 400-level Special Topics)
- 2 Mapping German Culture courses with attached one-hour FLAC sections (GERM 321–350)
- Option: GERM 303 *Composition and Conversation I* may be substituted for any one of the above courses except 304, 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**

The School of Humanities is currently reviewing the status of the Slavics majors program. At this time, the School is not registering new majors in the Slavics program. The School of Humanities is committed, however, to courses in Russian language, Slavic culture, and East European history, which are expected to be offered next year and in the future.

**Degree Requirements for BA in Slavic Studies for Existing Majors**

For general university requirements, see Graduation Requirements (pages 14–15). 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

Degrees Offered: BA and MA 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 BA in Hispanic Studies

For general university requirements, see Graduation Requirements (pages 14–15). 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. More than 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 four 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 MA IN HISPANIC STUDIES

For general university requirements, see Graduate Degrees (pages 57–58). For the MA 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 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.
The undergraduate program offers courses in the four main areas of ancient and 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 history. 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, European history, intellectual history, and global/world comparative history.

Degree Requirements for BA in History

For general university requirements, see Graduation Requirements (pages 14–15). 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 and 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 a class 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 and if the amount of required reading and writing is equivalent to that of a Rice History course. 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. Limited 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 MA and PhD in History

The Rice University graduate program in history is primarily a PhD program. Students who have a BA in history (or its equivalent) from an acceptable institution are eligible to apply to the PhD and MA programs. Although many successful candidates to the PhD program have an MA 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 57-58).

The department awards graduate tuition waivers and fellowship stipends, within the limits of available funds, to qualified PhD 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.

MA Program—The department gives priority to applicants for the PhD Completion of the MA 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. MA 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.

PhD 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 PhD 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 PhD degree.

For the PhD, 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 BA, 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 MA 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
Clark Haptonstall
Peter G. Weyand

Adjunct Professors
Becky Gorham
Mark Jenkins

Lecturers
Marlene A. Dixon
John F. Eliot
Brian T. Gibson
Cynthia A. Lanier

Part-time Lecturers
Gwendolyn Adam
Roberta Anding
Cassius B. Bordelon, Jr.
Joseph Pogge
Kristy Vandenberg

Degree Offered: BA

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 BA in Kinesiology

For general university requirements, see Graduation Requirements (pages 14–15). 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

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: 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 14–15). 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. To satisfy the LPAP requirement, students must complete 2 courses in the Lifetime Physical Activity Program that 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. Students may not repeat LPAP courses and students can only take four hours of LPAP courses for credit that count toward the total semester hours at graduation.

The LPAP offers approximately 40 courses each semester. Within scheduling constraints, a student may select a course 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, and nutrition.

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

Assistant Professors
Claire Bowern
Katherine Crosswhite
Robert Englebretson
Nancy Niedzielski

Adjunct Associate Professor
Spike Gildea

Adjunct Assistant Professor
I. Wayman Arka

Lecturer and Playwright in Residence
E. Douglas Mitchell

DEGREES OFFERED: BA, MA, PhD

BA 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 14–15). 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, 415, 419, 421, or 424; 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, LING 418, LING 419, LING 420, LING 422, 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.

**PhD 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 PhD 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 PhD 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.

In the second and third years in addition to course work, students prepare an in depth research paper on a topic chosen in consultation with two separate committees of the faculty. These two papers must represent different areas of the field, as determined by the linguistics faculty. A separate committee of the three faculty members, to be approved by the student’s advisor, referees each paper. In addition, one of the papers must be presented in the departmental colloquium, and it is expected that students submit their work for presentation at relevant professional meetings, and publish such work in conference proceedings and/or journals (funds may be available to defray the cost of the travel to meetings). Finally, students must demonstrate reading competency in 2 research languages.

In the course of the second and third years, the student should work toward establishing a close working relationship with various members of the faculty such that multiple faculty members are familiar with the student’s work. After the student’s second paper is accepted, a dissertation advisor is selected and a doctoral committee is formed, by mutual agreement of the student and the anticipated committee members.

During the fourth year, students present to their committee members a third research paper consisting of a substantial dissertation proposal and a comprehensive bibliography. This proposal may take the form of a grant proposal to an external funding agency, particularly in the case of proposed fieldwork. Upon completion of the prospectus, students will submit to an oral qualifying exam, to be administered by the dissertation committee. The exam will consist of two parts, a general exam, demonstrating the student’s knowledge of the field, and a dissertation prospectus hearing. Upon completion of this qualifying examination, the student will advance to candidacy.

The doctoral research project may require fieldwork before writing the dissertation; however, the student is expected to consult regularly with the committee 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.
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 (MBA) 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 MBA 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 MBA for Executives Program features the same content and faculty as the traditional two-year MBA 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 MBA has been incorporated into the course modules for the executive format. The MBA for Executives Program offers 4 electives at the end of the 21-month period.

A joint MBA/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 MBA/MD 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 56–57). Applicants to the MBA 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.

MBA Program—Although the MBA 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.

MBA for Executives—In addition to meeting the standards for admission to the MBA program, students admitted to the executive program typically have at least 10 years of relevant work experience.

Joint MBA/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 MBA/MD 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 MBA classes.

Degree Requirements for MBA

For the MBA 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 MBA 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. 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 MBA 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 MBA 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 MBA degree, but advanced language courses may qualify with approval from the MBA program director.

**Degree Requirements for MBA 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 MBA/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 MBA requires two. Joint-degree candidates, however, can fulfill requirements for both degrees in two academic years.
For the joint MBA/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 MBA program director.

**Degree Requirements for the Joint MBA/MD Program**

Students may earn both MBA and MD degrees in five years. They divide their time as follows:

- Years one and two—medical training at Baylor College of Medicine
- Year three—core MBA courses at Rice
- Year four—MBA 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 MBA degree from Rice after they have completed 45 hours of approved management course work; they receive their MD 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 MBA 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 MBA 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 MBA 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 MBA degree, the joint MBA/master of engineering degrees, or the joint MBA/MD 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—MBA 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 MBA 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 MBA/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 MBA 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.

**Confidentiality**—The Family Educational Rights and Privacy Act of 1974 and amendments govern the records of actions related to appeals.

**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 MBA/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 MBA/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 MBA program.

2. The director of ALP must schedule a meeting with the student and director of the MBA 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 MBA 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 MBA 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 MBA 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 MBA 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 MBA 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 MBA 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 MBA 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 MBA 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 and Procedures**

Due to the unique module schedule by which the Jones School abides, MBA students have special procedures by which they follow to make schedule changes. The MBA Program Office has implemented an add/drop policy which allows students the opportunity to add/drop courses at various times throughout the semester. Below are the procedures for adding or dropping a course and students should contact the MBA Program Associate for assistance.

All schedule changes must be approved by the MBA Program Associate prior to the add/drop deadline (either via email or in person) before the student may make
schedule changes on Esther (http://esther.rice.edu/). All class rosters are updated in the MBA Program Office and sent to professors for enrollment counts and attendance records and students are responsible to communicate with the MBA Program Associate regarding all proposed schedule changes.

If student is taking a ONE CREDIT course:
1. A student may add/drop a class, including section changes for core courses, with permission from the MBA Program Associate during the first week of the module without penalty.
2. A student must attend the first class, and may not miss class during the first week.
3. A student may not add or drop a course after the first week of class (see add/drop deadlines below for the 2004–2005 academic year).

If student is taking a TWO CREDIT course:
1. A student may add/drop a class with permission from the MBA Program Associate, during the first two weeks of module in which the class begins without penalty.
2. A student must attend the first class and may not miss class during the first week.
3. A student may not add or drop a course after the second week of class.

If student is taking a THREE CREDIT course:
1. A student may add/drop a class with permission from the MBA Program Associate, during the first three weeks of module in which the class begins without penalty.
2. A student must attend the first class, and may not miss class during the first week.
3. A student may not add or drop a course after the third week of class.

2004–2005 Add/Drop Deadlines

<table>
<thead>
<tr>
<th>Add/Drop Period</th>
<th>Module(s)</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>August 23–30</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>August 23–September 7</td>
<td>1–2</td>
<td>2</td>
</tr>
<tr>
<td>August 23–September 13</td>
<td>1–3</td>
<td>3</td>
</tr>
<tr>
<td>September 27–October 4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>September 27–October 11</td>
<td>2–3</td>
<td>2</td>
</tr>
<tr>
<td>November 8–November 15</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Spring 2005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 12–19</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>January 12–26</td>
<td>4–5</td>
<td>2</td>
</tr>
<tr>
<td>January 12–February 2</td>
<td>4–6</td>
<td>3</td>
</tr>
<tr>
<td>February 21–February 28</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>February 21–March 7</td>
<td>5–6</td>
<td>2</td>
</tr>
<tr>
<td>March 28–April 4</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

All schedule changes must be submitted and approved by Christa VanDrie no later than 5 P.M.

Office: 210-2 Jones School Building
Phone: 713-348-6223
Email: cvandrie@rice.edu
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 MBA 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 during the course of the degree program without the approval of the Academic Committee. If an independent study is proposed that would cause a student to exceed the three credit limit, the Academic Standards Committee will select two faculty members, other than the faculty member who will supervise the project, within the area most closely related to the study’s academic contact to review and approve the study. Independent study exceeding three credits in total should consider current policies restricting use of independent study as well as the incremental value of additional independent study in light of past independent studies. If the study does not align with any of the JGSM academic groups, the Academic Standards Committee will perform the review and make the final approval decision.

Independent study projects are for academic credit, not for hire. Students may not earn credit for paid research assistance.

Faculty Sponsorship—Independent study projects are normally sponsored only by full-time JGSM faculty. Students wishing for sponsorship by a part time 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 MBA 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 MBA program office.

Applications—Independent Study Applications are available for interested students to pick up in the MBA Program Office. Complete and approved applications are due to the MBA Program Associate by the first week of the module in which the project will be completed. The student will be registered for MGMT 700 Independent study for the appropriate credit amount, only when the MBA Program Associate send the approved application information to the registrar for processing.

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 MBA 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 MBA 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.
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 BA in Managerial Studies

For the BA 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

1 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

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
Stefan Friedl
Taheee Kim
Christopher Rosmussen
Ilie D. Ugarcovici

Degrees Offered: BA, MA, PhD

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 BA in Mathematics

For general university requirements, see Graduation Requirements (pages 14–15). 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 MA and PhD 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 BA degree to obtain an MA degree, and they take four or five years to obtain a PhD. An MA is not a prerequisite for the PhD. For general university requirements, see Graduate Degrees (pages 57–58).

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.

**MA Program**—Candidates for the MA 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 PhD (see below) or present, and provide an oral defense of, an original thesis acceptable to the department

**PhD Program**—Candidates for the PhD 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.
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 MBA/Master of Engineering degree is available in conjunction with the Jesse H. Jones Graduate School of Management. Also, a combined MD 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 research 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 BA, BSME in Mechanical Engineering or BA, BSMS in Materials Science and Engineering**

For general university requirements, see Graduation Requirements (pages 14–15). The BA program in either mechanical engineering or materials science and engineering is highly flexible, involves less technical content than the BS, and allows students greater freedom to pursue areas of interest outside of engineering.

The two BS programs prepare students for professional practice of engineering. During their senior year, mechanical engineering students in the BS program take courses in design application while completing a major design project, and materials science and engineering students in the BS program work on a design problem in an industrial setting. The BSME 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.

**BSME Program**—Lists of representative undergraduate courses and the usual order in which students take them are available from the department for either the BA or BS programs in both mechanical engineering and materials science and engineering. The BSME 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
- MSCI 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 210 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.

**BA in Mechanical Engineering Program**—Students seeking the BA 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 BA program mirrors the BSME 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 BS with 23 major and 9 elective hours for 32 hours.

**Sophomore Year**  
Same as BS (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)*  
- CAAM 336 *Differential Equations in Science and Engineering (3)*  
- MECH 343 *Modeling of Dynamic Systems (4)*  
- MECH 371 *Fluid Mechanics I (3)*  
- MECH 401 *Machine Design (3)*  
- MECH 412 *Vibrations (3)*  
- MECH 420 *Feedback Control of Dynamic Systems (3)*  
- MECH 481 *Heat Transfer (3)*

**BA in Materials Science and Engineering Program**—Students seeking the BA 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.

**BSMS Program**—Students seeking the BSMS 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 BSMS are as follows:
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 210 Introduction to Engineering Computation
CAAM 335 Matrix Analysis
CEVE 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 Metallurgy 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 MME, MMS, MS, and PhD in Mechanical Engineering or Materials Science and Engineering

Professional Degree Programs—The professional degrees offered by this department, the Master of Mechanical Engineering (MME) and the Master of Materials Science (MMS), involve a fifth year of specialized study, which is integrated with the four undergraduate years leading to either the BA or the BS 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 57–58). For both the MME and MMS 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 MS and PhD 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 57–58). 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 MS and PhD 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**
Eva Haverkamp

**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: BA**

This interdisciplinary major enables students to compare medieval cultures, noting both their differences and their common traditions, in the period between 500 and 1500 AD. 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 BA in Medieval Studies**

For general university requirements, see Graduation Requirements in this publication. 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 and Culture of the Middle Ages: Saints and Sinners
- MDST 425 Courtly Love in Medieval France
- MDST 330 Early Medieval Art
- MDST 331 Gothic Art and Architecture in Northern Europe, 1140–1300
- MDST 332 Late Gothic Art and Architecture in Northern Europe, 1300–1500
- MDST 222 Medieval and Renaissance Eras
- MDST 429 Music in the Middle Ages
One of the following courses
- MDST 201 History of Philosophy I
- MDST 257/357 Jews and 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 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 PhD).

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 2004 and spring 2005, please visit the Medieval Studies web site at http://medieval.rice.edu.

**Classical Studies**
- MDST 101 Elementary Latin I
- MDST 102 Elementary Latin II
- MDST 211 Intermediate Latin I
- MDST 212 Intermediate Latin II

**English**
- MDST 300 Medieval Women Writers
- MDST 310 Dante in Translation
- MDST 311 Old English
- MDST 315 Introduction to Medieval Culture
- MDST 316 Chaucer
- MDST 317 Arthurian Literature
- MDST 318 J. R. R. Tolkien
- MDST 368 Mythologies

**French Studies**
- MDST 410 The Literary and Historical Image of the Medieval Woman
- MDST 414 Literature and Culture of the Middle Ages: Saints and Sinners
- MDST 425 Courtly Love in Medieval France
- MDST 436 Literature and Culture of the Middle Ages: King Arthur

**German Studies**
- MDST 126 Freshman Seminar: The Legend of King Arthur in the Middle Ages
- MDST 330 Mapping German Culture: Courtship, Love and Marriage in the Age of Chivalry

**History of Art**
- MDST 108 Art in Context: Late Medieval and Renaissance Culture
- MDST 111 Introduction to the History of Western Art I: Prehistoric to Gothic
- MDST 238 Special Topics in Medieval Art
- MDST 239 Independent Study in Medieval Art
- MDST 330 Early Medieval Art
- MDST 331 Gothic Art and Architecture in Northern Europe, 1140–1300

**The Age of Cathedrals**
- MDST 332 Late Gothic Art & Architecture in Northern Europe, 1300-1500
- MDST 440 Jan van Eyck: Problems of Interpretation
- MDST 457 Bosch and Bruegel

**History**
- MDST 168 The World of Arabian Nights
- MDST 223 Medieval Empires
- MDST 257 Jews and Christians in Medieval Europe
- MDST 281 Pre-Modern Middle East History: The Middle East from the Prophet Muhammad
to Muhammad Ali
MDST 303 Undergraduate Independent Reading
MDST 304 Undergraduate Independent Reading
MDST 308 The World of Late Antiquity
MDST 321 Directed Readings in Medieval History
MDST 322 Directed Readings in Medieval History
MDST 323 Medieval Empires (enriched version)
MDST 345 Humanism and Expansion
MDST 357 Jews and Christians in Medieval Europe (enriched version)
MDST 358 European Intellectual History from Augustine to Descartes
MDST 382 Classical Islamic Cultures
MDST 384 The Crusades: Holy War in Medieval Christendom and Islam
MDST 387 Life on the Nile
MDST 438 Women and Gender in Medieval Islamic Societies
MDST 444 Memory and Commemoration in the Middle Ages
MDST 446 Jewish and Christian Communities in the Middle Ages

MDST 447 The Age of the Crusades
MDST 488 Topics in Medieval History

Linguistics
MDST 311 Old English

Music
MDST 222 Medieval and Renaissance Eras
MDST 429 Music of the Middle Ages
MDST 441 Hildegard of Bingen
MDST 456 Collegium
MDST 486 Illuminated Music Manuscripts

Philosophy
MDST 201 History of Philosophy I
MDST 301 Ancient and Medieval Philosophy
MDST 481 Seminar in Ancient and Medieval Philosophy

Religious Studies
RELI 443 Maimonides’ Guide for the Perplexed

See MDST in the Courses of Instruction section.
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 14–15). 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 $500 for the four-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 54 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 junior year and $400 per month senior year. 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 junior school year and $400 per month during senior 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 3.00 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 Atherholt
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
Honey Meconi
Jon Kimura Parker
Larry Rachleff
Robert Roux
Marie Speziale
William Ver Meulen
Kathleen Winkler

**Professor Emeritus**
Raphael Fliegel

**Associate Professors**
Walter B. Bailey
Thomas I. Jaber
Pierre Jalbert
David E. Kirk
Thomas LeGrand
Paula Page
Timothy Pitts
Karen Ritscher
David L. Waters
Michael Webster

**Assistant Professors**
Karim Al-Zand
Gregory Barnett
Anthony K. Brandt
Shih-Hui Chen
David Ferris
Kurt Stallmann

**Instructor**
Joan DerHovespian

**Artist Teachers**
Brian Connelly
Jan de Chambrier
Debra Dickinson
Jeanne Kierman Fischer
Michael Franciosi
Christopher French
Hans Graf
Janet Rarick
C. Dean Shank, Jr.

**Lecturers**
Nancy Gisbrecht Bailey
Susan Dunn
Phillip Kloeckner

**Adjunct Lecturers**
David Malone
Robert Simpson
C. Richard Stasney
Pieter A. Visser

**Degrees Offered: BA, BMus, BMus/MMus, MMus, DMA**

At the undergraduate level, the Shepherd School of Music offers both professional training and a broad liberal arts curriculum. Degree programs include a BA degree in music and a BMus degree in performance, composition, music history, and music theory. Acceptance into a five-year honors program leads to the simultaneous awarding of the BMus and MMus 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 MMus degree in composition, choral and instrumental conducting, historical musicology, performance, and music theory and a DMA degree in composition and selected areas of performance.
Requirements for All Music Majors

For general university requirements, see Graduation Requirements (pages 14–15). 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 BA 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 BA 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 BA in Music, BMus, and BMus/MMus

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.

BA and BMus Program—For general university requirements, see Graduation Requirements (pages 14–15).

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 BA 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.

BMus/MMus Honors Program—The same general university requirements apply, but students seeking the combined BMus/MMus 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 MMus and DMA 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 and theory. Musicology applicants must also complete the advanced music tests.

**Requirements**—For general university requirements, see Graduate Degrees (pages 57–58). For the MMus degree, candidates must complete at least two semesters of full-time study at Rice. Semester hour minimums for the MMus degree vary according to major area. For the DMA, 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 MMus 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
Thomas C. Killian
Douglas A. Natelson
Frank R. Toffoletto
Faculty Fellow
Kristen M. Kulinowski

Degrees Offered: MS

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 MS in Nanoscale Physics

In addition to the core science courses, students are required to complete a three- to six-month internship and take a set of cohort courses focusing on business and communication. At the conclusion of the internship, students must present a summary of the internship project in both oral and written form as part of the Professional Master’s Seminar.

Part-time students who already work in their area of study may fulfill the internship requirement by working on an approved project with their current employer. Certain course requirements may be waived based upon prior graduate coursework or industrial experience. For general university requirements for graduate study, see pages 62–63, and see also Professional Degrees, page 58.

Admission

Admission to graduate study in nanoscale physics is open to qualified students holding a bachelor’s degree in physics, electrical engineering, or a related field that includes intermediate level work in mathematics, electrodynamics, and quantum physics. Department faculty evaluate the previous academic record and credentials of each applicant individually.
Science core courses:
PHYS 533 Nanostructures and Nanotechnology I (F)
PHYS 539 Characterization and Fabrication at the Nanoscale (F)
PHYS 537 Methods of Experimental Physics I (F)
PHYS 534 Nanostructures and Nanotechnology II (S)
PHYS 538 Methods of Experimental Physics II (S)
PHYS 416 Computational Physics (S)

Cohort courses:
MGMT 750 Management in Science and Engineering (F)
NSCI 501 Professional Master's Seminar (F, S) [required for two semesters]
NSCI 511 Science Policy and Ethics (S)

Internship
An internship under the guidance of a host company, government agency, or national laboratory. A summary of the internship project is required in both oral and written form as part of the Professional Master’s Seminar.

Elective Courses
Note: Each of these electives is not offered every year, and some courses may have prerequisites or require instructor permission.
Students will choose four elective courses, two of which must be science or engineering 500 level or above. Recommended courses include, but are not limited to, the following:

CAAM 378 Introduction to Operations Research (F)
CHEM 533 Nanostructure and Nanotechnology
CHEM 547 Supramolecular Chemistry (F)
CHEM 630 Molecular Spectroscopy and Group Theory (F)
ELEC 561 Topics in Semiconductor Manufacturing (S)
ELEC 562 Submicrometer and Nanometer Device Technology (S)
ELEC 568 Laser Spectroscopy (F)
ELEC 603 Nano-Optics and Nanophotonics (F)
ELEC 645 Thin Films (F)
ELEC 685 Fundamentals of Medical Imaging (F)

ENGI 303 Engineering Economics and Management (S)
MGMT 617 Managerial Decision Making (S)
MGMT 636 Systems Analysis and Database Design
MGMT 661 International Business Law (F)
MGMT 674 Production and Operations Management (F)
MGMT 676 Project Management/Project Finance (S)
MGMT 721 General Business Law (S)
MGMT 751 New Venture Creation in Science and Engineering (S)
PHYS 569 Ultrafast Optical Phenomena (S)
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 14–15) 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 $300 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
Hanoch Scheinman
Rachel Zuckert

Adjunct Professor
Laurence McCullough

DEGREES OFFERED: BA, MA, PhD

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 BA IN PHILOSOPHY

For general university requirements, see Graduation Requirements (pages 14–15). Students majoring in philosophy must complete 30 semester hours (10 3-hour departmental courses); at least 18 hours (6 courses) must be at the 300 level or above. A double major must complete 27 hours (9 3-hour 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 MA and PhD in Philosophy

For general university requirements, see Graduate Degrees (pages 57–58). Students have the additional option of applying for a doctoral program specializing in bio-ethics (see below).

For the MA 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 PhD 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 PhD 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 PhD 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
Billy E. Bonner
Paul A. Cloutier
Marjorie D. Corcoran
Michael W. Deem
Rui-Rui Du
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.
Qimiao Si
Richard E. Smalley
Paul M. Stevenson

Associate Professors
David Alexander
Anthony A. Chan
Stanley A. Dodds
Patrick M. Hartigan

Assistant Professors
Matthew G. Baring
Giovanni Fossati
Jason H. Hafner
Christopher Johns-Krull
Ching-Hwa Kiang
Thomas C. Killian
Douglas A. Natelson
Uwe Oberlack
B. Paul Padley
Han Pu
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

Instructors
Leonard E. Suess
Sujeew Wickramasekara

Senior Faculty Fellows
Bernard G. Lindsay
William J. Llope
Pablo P. Yepes

Faculty Fellow
Ian A. Smith

Degrees Offered: BA, BS, MST, MS, PhD

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. Students in the professional non-thesis, MST program obtain training in science teaching. Research facilities and thesis supervision are available for MS and PhD 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 14–15). 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*

**Additional courses for the BS 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*

**Additional courses for the BS 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 231 *Elementary Physics Laboratory II*
- PHYS 301 *Intermediate Mechanics*
- 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 211/212)

**Additional courses for the BS degree in physics with option in applied physics:**

- 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*
- CHEM 121/122 *General Chemistry with Laboratory* or CHEM 151/152 *Honors Chemistry with Laboratory*
Additional courses for the BS 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

or CAAM 335 Matrix Analysis and CAAM 336 Differential Equations in Science and Engineering
CAAM 210 Introduction to Engineering Computation
CAAM 353 Computational Numerical Analysis
CAAM 420 Computational Science I

1 of: CAAM 452 Numerical Methods for Partial Differential Equations, CAAM 453 Numerical Analysis, CAAM 520 Computational Science II
CHEM 121 General Chemistry with Laboratory
or CHEM 151 Honors Chemistry with Laboratory

Additional courses for the BS degree 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

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 Introduction to Engineering Computation
CAAM 336 Differential Equations in Science and Engineering
CHEM 121 General Chemistry with Laboratory

or 1 MATH or CAAM course (3 credit hours) at or above 300 level

Additional courses for the BA 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 Introduction to Engineering Computation or 1 MATH or CAAM course (3 credit hours) at or above 300 level

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 Introduction to Engineering Computation
CAAM 336 Differential Equations in Science and Engineering
CHEM 121 General Chemistry with Laboratory

3 courses from:
ASTR 450 Experimental Space Science
ASTR 451 Solar and Stellar Astrophysics
ASTR 452 Galaxies and Cosmology
ASTR 470 Solar System 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

Additional courses for the BS 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

CHEM 121 General Chemistry with Laboratory

CHEM 121 General Chemistry with Laboratory
**Requirements for Advanced Degrees**

For general university requirements, see Graduate Degrees (pages 57–58). More detailed information on courses and requirements is available from the Department of Physics and Astronomy.

The master of science teaching requires 30 credit hours of approved course work. The master of science is a research degree, normally undertaken as the first stage of doctoral study. The MS 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 PhD 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 MS. 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 PhD.

See ASTR and PHYS in the Courses of Instruction section.
POLICY STUDIES

THE SCHOOL OF SOCIAL SCIENCES

DIRECTOR
Donald Ostdieck

DEGREE OFFERED: BA

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 BA IN POLICY STUDIES

For general university requirements, see Graduation Requirements (pages 14–15). 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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLI 338/SOSC 301</td>
<td>Policy Analysis</td>
</tr>
<tr>
<td>ECON 211 or 212</td>
<td>Principles of Economics I or II</td>
</tr>
<tr>
<td>POLI 337</td>
<td>Public Policy and Bureaucracy</td>
</tr>
</tbody>
</table>

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:

1. Environmental Policy (Choose 6)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 480</td>
<td>Environmental and Energy Economics I</td>
</tr>
<tr>
<td>POLI 331</td>
<td>Environmental Politics and Policy</td>
</tr>
<tr>
<td>SOCI 367</td>
<td>Environmental Sociology</td>
</tr>
<tr>
<td>ENVI 306</td>
<td>Global Environmental Law and Sustainable Development</td>
</tr>
<tr>
<td>ENVI 406</td>
<td>Introduction to Environmental Law</td>
</tr>
<tr>
<td>HIST 330</td>
<td>U.S. Environmental History</td>
</tr>
<tr>
<td>ARCH 313</td>
<td>Sustainable Architecture</td>
</tr>
<tr>
<td>ANTH 468</td>
<td>Palaeoclimate and Human Response</td>
</tr>
<tr>
<td>BIOS 322</td>
<td>Global Ecosystem Dynamics</td>
</tr>
<tr>
<td>BIOS 324</td>
<td>Wetland Ecosystems</td>
</tr>
<tr>
<td>BIOS 325</td>
<td>Ecology</td>
</tr>
<tr>
<td>ENGL 478</td>
<td>Literature and the Environment</td>
</tr>
<tr>
<td>ENV/HPHS 201</td>
<td>Introduction to Environmental Systems</td>
</tr>
<tr>
<td>ENVI 445</td>
<td>Natural Environmental Factors</td>
</tr>
<tr>
<td>GEOL 326</td>
<td>Environmental Geology</td>
</tr>
<tr>
<td>GEOL 341</td>
<td>The Oceans</td>
</tr>
<tr>
<td>GEOL 345</td>
<td>Geology of National Parks</td>
</tr>
<tr>
<td>POLI 336</td>
<td>Politics of Regulation</td>
</tr>
<tr>
<td>RELI 362</td>
<td>Environmental Ethics</td>
</tr>
<tr>
<td>SPAC 203</td>
<td>Atmosphere, Weather, and Climate</td>
</tr>
<tr>
<td>SPAC 443/ENVI 443</td>
<td>Atmospheric Science</td>
</tr>
<tr>
<td>UNIV 303</td>
<td>Environmental Problem Solving</td>
</tr>
</tbody>
</table>

2. Government Policy and Management (Choose 6)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 436</td>
<td>Government Regulation of Business</td>
</tr>
<tr>
<td>ECON 461</td>
<td>Urban Economics</td>
</tr>
<tr>
<td>ECON 483</td>
<td>Public Finance</td>
</tr>
<tr>
<td>POLI 300</td>
<td>Federalism and Intergovernmental Politics</td>
</tr>
<tr>
<td>POLI 301</td>
<td>State Politics</td>
</tr>
<tr>
<td>POLI 332/332</td>
<td>Urban Politics</td>
</tr>
<tr>
<td>POLI 436</td>
<td>Politics of Regulation</td>
</tr>
<tr>
<td>ANTH 344</td>
<td>City/Culture</td>
</tr>
<tr>
<td>ECON 438</td>
<td>Economics of the Law</td>
</tr>
<tr>
<td>ECON 480</td>
<td>Environmental and Energy Economics I</td>
</tr>
<tr>
<td>POLI 330</td>
<td>Minority Politics</td>
</tr>
<tr>
<td>POLI 331</td>
<td>Environmental Politics and Policy</td>
</tr>
<tr>
<td>POLI 335</td>
<td>Political Environment of Business</td>
</tr>
<tr>
<td>POLI 458</td>
<td>Property Rights and Privatization</td>
</tr>
<tr>
<td>ENVI 406</td>
<td>Introduction to Environmental Law</td>
</tr>
<tr>
<td>HIST 468</td>
<td>Women and the Welfare State</td>
</tr>
<tr>
<td>SOSC 330</td>
<td>Healthcare Reform in the 50 States</td>
</tr>
<tr>
<td>SOSC 430</td>
<td>The Shaping of Health Policy in the United States</td>
</tr>
<tr>
<td>SOCI 308</td>
<td>Houston: The Sociology of a City</td>
</tr>
<tr>
<td>SOCI 331</td>
<td>Politics and Society in Texas</td>
</tr>
<tr>
<td>SOCI 370</td>
<td>Sociology of Education</td>
</tr>
<tr>
<td>SOCI 350</td>
<td>Sociological Approaches to Poverty</td>
</tr>
<tr>
<td>SOCI 399</td>
<td>Immigration and Public Health</td>
</tr>
<tr>
<td>SOCI 411</td>
<td>Social Change</td>
</tr>
<tr>
<td>SOCI 441</td>
<td>Minorities in the Schooling Process</td>
</tr>
</tbody>
</table>

3. Healthcare Policy and Management (Choose 6)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 381</td>
<td>Medical Anthropology</td>
</tr>
<tr>
<td>ANTH 386</td>
<td>Human Nutrition</td>
</tr>
<tr>
<td>ANTH 388</td>
<td>Life Cycle: A Biocultural View</td>
</tr>
<tr>
<td>HEAL 212</td>
<td>Consumer Health</td>
</tr>
<tr>
<td>HEAL 350</td>
<td>Understanding Cancer</td>
</tr>
<tr>
<td>HEAL 407</td>
<td>Epidemiology</td>
</tr>
<tr>
<td>HEAL 410</td>
<td>Program Development in Health Education</td>
</tr>
<tr>
<td>PHIL 315</td>
<td>Ethics, Medicine, and Public Policy</td>
</tr>
<tr>
<td>RELI 462/463</td>
<td>Medical Ethics and American Values I and II</td>
</tr>
<tr>
<td>SOSC 330</td>
<td>Healthcare Reform in the 50 States</td>
</tr>
<tr>
<td>SOSC 420</td>
<td>Healthcare: Competition and Managed Care</td>
</tr>
</tbody>
</table>
234 DEPARTMENTS / Policy Studies

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
SPAN 307/308 The Language of Healthcare

4. International Affairs (Choose 6)
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
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

6. Business Policy and Management (Choose 6)
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
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
POLI 464 Political Economy of Development

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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCI 301</td>
<td>Social Inequality</td>
</tr>
<tr>
<td>SOCI 308</td>
<td>Houston: The Sociology of a City</td>
</tr>
<tr>
<td>SOCI 309</td>
<td>Race and Ethnic Relations</td>
</tr>
<tr>
<td>SOCI 310</td>
<td>Urban Sociology</td>
</tr>
<tr>
<td>SOCI 313</td>
<td>Demography</td>
</tr>
<tr>
<td>SOCI 411</td>
<td>Social Change</td>
</tr>
<tr>
<td>POLI 332</td>
<td>Urban Politics</td>
</tr>
<tr>
<td>POLI 438</td>
<td>Race and Public Policy</td>
</tr>
<tr>
<td>POLI 441</td>
<td>Common Property Resources</td>
</tr>
</tbody>
</table>
POLITICAL SCIENCE

THE SCHOOL OF SOCIAL SCIENCES

DEGREES OFFERED: BA, MA, PhD

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 BA IN POLITICAL SCIENCE

For general university requirements, see Graduation Requirements (pages 14–15). 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:

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

PROFESSOR EMERITI
John S. Ambler
Chandler Davidson
Fred R. von der Mehden

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
• 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 26).

**Degree Requirements for MA and PhD in Political Science**

For general university requirements, see Graduate Degrees (pages 57–58). Students in the PhD 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 MA.

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 MA 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
James L. Dannemiller
Randi C. Martin
James R. Pomerantz
David J. Schneider
Michael J. Watkins

PROFESSORS EMERITUS
John W. Brelsford
Kenneth R. Laughery

ASSOCIATE PROFESSORS
Sarah A. Burnett
Michelle (“Mikki”) R. Hebl
David M. Lane
Tony Ro

ASSISTANT PROFESSORS
Daniel J. Beal
Margaret E. Beier
E. Darcy Burgund
Michael D. Byrne
Xiaohong Denise Chen
Geoffrey F. Potts

ASSOCIATE PROFESSORS
Richard R. Batsell
Steven C. Currall

ASSISTANT PROFESSOR
D. Brent Smith

ADJUNCT PROFESSORS
John H. Byrne
J. Maxwell Elden
William C. Howell
Paul Richard Jeanneret
Katherine A. Loveland
John E. Overall
Anthony A. Wright

ADJUNCT ASSOCIATE PROFESSORS
Lindley E. Doran
S. Morton McPhail

RESEARCH SCIENTIST
Chaiyapoj Nestsiri

POSTDOCTORAL RESEARCH ASSOCIATES
Philip C. Burton

DEGREES OFFERED: BA, MA, PhD

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 as well as in psychology.
Program emphasis in graduate study is on doctoral training, which includes 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), human-computer interaction, and industrial/organizational psychology (personnel selection, training, work motivation, discrimination, and group processes).

**Degree Requirements for BA 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)

**Block 1**

- PSYC 308 *Memory*
- PSYC 309 *Psychology of Language*

**Block 2**

- PSYC 308 *Psychology of Learning*
- PSYC 351 *Psychology of Perception*
- PSYC 360 *Thinking*
- PSYC 362 *Biopsychology*

At least 1 course from each block*

*No substitutions or transfer credits allowed to fulfill Block 1 and 2 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 3.7 and an overall GPA of 3.5, 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 26). Detailed information about the honors program is available from the instructor of the course or the departmental office.

**Degree Requirements for MA and PhD 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 57–58). For both MA and PhD degrees, students must complete a research thesis, including a public oral defense, and accumulate 30 semester hours for the MA and 60 hours for the PhD. 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

Degrees Offered: BA, PhD

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 BA in Religious Studies

For general university requirements, see Graduation Requirements (pages 14–15). 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 15–16) and Majors (pages 17–18).

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, Islam, Hinduism, 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 PhD 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 57–58). 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 perform a minimum amount of services in return for their stipend by assisting the department as needed.

The PhD 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.*
SOCIOLOGY

THE SCHOOL OF SOCIAL SCIENCES

**Chair**
Elizabeth Long

**Professors**
Stephen L. Klineberg
William Martin

**Professors Emeriti**
Chandler Davidson
Chad Gordon

**Associate Professors**
Katharine Donato

**Assistant Professors**
Bridget K. Gorman
Holly Heard
Scott Phillips

**Degree Offered: BA**

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 BA in Sociology**

For general university requirements, see Graduation Requirements (pages 14–15). 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 395 Feminist Social Thought**

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 26). 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

Degrees Offered: BA, MStat, MA, PhD

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 building, quality control, statistical computing, spatial processes, stochastic processes, and time series analysis. A joint MBA/master of engineering degree is also available in conjunction with the Jesse H. Jones Graduate School of Management.

Degree Requirements for BA in Statistics

For general university requirements, see Graduation Requirements (pages 14–15). 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 310 Probability and Statistics
• STAT 410 Introduction to Statistical Computing and Regression
• 6 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).

The department offers a specialization in computational finance and through the Center for Computational Finance and Economic Systems.

**Degree Requirements for MStat, MA, and PhD in Statistics**

For general university requirements, see Graduate Degrees (pages 57–58). Admissions 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 MStat degree must complete 30 semester hours of approved course work. Candidates for the MA 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 PhD comprehensive examinations.

**PhD Program**—Candidates for the PhD 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, and complete an original thesis with a public oral defense.

See STAT in the Courses of Instruction section.
Rice University introduced a professional master's degree in subsurface geoscience in fall 2003. 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 MS in Subsurface Geoscience**

In addition to core science courses, students are required to complete a three- to six-month internship and take a set of cohort courses focusing on business and communication. Students select a group of elective courses from one of three focus areas: geology, geophysics, or information geology. Students must present their internship project in both oral and written form in the Professional Master's Seminar.

Part-time students who already work in their area of study may fulfill the internship requirement by working on an approved project with their current employer.
Admission to graduate study in subsurface geoscience is open to qualified students holding a bachelor’s degree in science that includes coursework in general chemistry, physics, calculus, differential equations, and linear algebra. Department faculty evaluate the previous academic record and credentials of each applicant individually.

Science core courses:
ESCI 441 Geophysical Data Analysis (F)
ESCI 442 Exploration Geophysics I (F)
ESCI 417 Petroleum Industry Economics and Management (S)
ESCI 444 Exploration Geophysics II (S)
ESCI tbd Modern Industrial Exploration Techniques (S)

Cohort courses:
MGMT 750 Management in Science and Engineering (F)
NSCI 501 Professional Master’s Seminar (F, S) [required for two semesters]
NSCI 511 Science Policy and Ethics (S)

Internship
An internship under the guidance of a host company, government agency, or national laboratory. A summary of the internship project is required in both oral and written form as part of the Professional Master’s Seminar.

Elective Courses
NOTE: Each of these electives is not offered every year, and some courses may have prerequisites or require instructor permission.

Students will choose five electives, three of which should be chosen from one of the focus areas listed below. Recommended courses for each focus area include, but are not limited to, the following:

Information Technology
COMP 429 Introduction to Computer Networks (S)
ESCI 454 Geographic Information Science (F)
STAT 310 Probability and Statistics (F, S)
STAT 410 Introduction to Statistical Computing and Computer Models (F, S)

Geology Focus Area
ESCI 415 Petroleum Geology (S)
ESCI 427 Seismic Sequence Stratigraphy (S)
ESCI 428 Interpretation of Reflection Seismograms (F)
ESCI 450 Remote Sensing (S)
ESCI 465 Advanced Structural Geology (F)
ESCI 504 Siliciclastic Depositional Systems (F)
ESCI 505 Applied Sedimentology (F)
ESCI 506 Carbonate Depositional Systems (S)

Geophysics Focus Area
CENG 571 Flow and Transport through Porous Media I (S)

ESCI 427 Seismic Sequence Stratigraphy (S)
ESCI 428 Interpretation of Reflection Seismograms (F)
ESCI 454 Geographic Information Science (F)
ESCI 461 Seismology I (F)
ESCI 542 Seismology II (F)
STAT 310 Probability and Statistics (F, S)

Additional Electives
CAAM 378 Introduction to Operations Research (F)
ECON 486 Energy Economics (S)
CEVE 322 Engineering Economics for Engineers (F)
MGMT 617 Managerial Decision Making (S)
MGMT 636 Systems Analysis and Database Design
MGMT 661 International Business Law (S)
MGMT 674 Production and Operations Management (F)
MGMT 676 Project Management/Project Finance (S)
MGMT 721 General Business Law (S)
MGMT 751 New Venture Creation for Science and Engineering (S)
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
Robert L. Patten
Meredith Skura
Ewa M. Thompson

**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
Jeffrey J. Kripal
Colleen R. Lamos
Caroline F. Levander
Elizabeth Long
Susan Lurie
William B. Parsons
Nanxiu Qian
Carol E. Quillen
Paula Sanders
Julie M. Taylor
Sarah Westphal
Lora Wildenthal

**ASSISTANT PROFESSORS**
Regina Branton
Marcia Brennan
Krista Comer
Elizabeth Dietz
Sarah Ellenzweig
Bridget K. Gorman
Holly Heard
Michelle R. Hebl
Nancy A. Niedzielski
Kirsten Ostherr
Sherrilyn Roush
Elora Shehabuddin
Allison Sneider
Rachel Zuckert

**PROFESSOR OF THE PRACTICE**
Diana L. Strassmann

**LECTURER**
Thad Logan

**Degrees Offered: BA and Graduate Certificate**

Both the undergraduate major and the graduate certificate program take an interdisciplinary approach in their 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 BA in the Study of Women and Gender**

For general university requirements, see Graduation Requirements in this publication. 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 one approved non-Western studies course
• At least one approved critical race studies course
• At least one approved theory course

Of the remaining required courses, no more than four (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 2004 and spring 2005, please visit the SWG web site at http://swg.rice.edu.

I. Courses that Satisfy the Core Requirements

WGST 101 Introduction to the Study of Women and Gender
WGST 201 Introduction to Lesbian, Gay, Bisexual, and Transgender Studies
WGST 498 Research in the Study of Women and Gender (F)
WGST 499 Research in the Study of Women and Gender (S)

II. Courses that Satisfy the Non-Western Studies Requirement

WGST 210 Islam and Politics
WGST 240 Gender and Politicized Religion
WGST 250 International Political Economy of Gender
WGST 283 Women in the Modern Islamic World
WGST 323 The Knowing Body: Buddhism, Gender, and the Social World
WGST 328 Latin American Genders
WGST 340 Gender and Politicized Religion (enriched version)
WGST 399 Women in Chinese Literature
WGST 432 Islam in South Asia
WGST 455 Women and Gender in Medieval Islam

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 387 Cultural Studies: Race, Gender, and the Politics of Representation
WGST 387 Cultural Studies
WGST 415 Sociolinguistics
WGST 453 Topics in African American Literature: Black Women Writers
WGST 468 Women and the U.S. Welfare State: Sexual Politics and American Poverty

IV. Courses that Satisfy the Theory Requirement

WGST 303 Women's Stories and Legal Change
WGST 339 Feminist Philosophy
WGST 391 Producing Feminist Knowledge: Methodology and Visual Culture
WGST 395 Feminist Knowledges
WGST 430 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 and Society
WGST 220 Gendered Perspectives on the Law
WGST 225 Women in Greece and Rome
WGST 300 Medieval Women Writers
WGST 301 Arthurian Literature
WGST 305 Chaucer
WGST 317 Mapping German Culture: Women and National Socialism
WGST 319 French and Francophone Women Writers
WGST 324 Sociology of Gender
WGST 325 Sociology of the Family
WGST 327 Third Wave Feminist Cultures
WGST 328 Latin American Genders
WGST 329 Literature and Culture of the American West
WGST 330 Mapping German Culture: Courtship, Love, and Marriage in the Age of Chivalry
WGST 331 The Psychology of Gender
WGST 332 Self, Sex, and Society in Ancient Greece
WGST 333 Masculinities
WGST 335 The Lifecycle: A Biocultural View
WGST 336 History as a Cultural Myth
WGST 341 Gender and Politics
WGST 348 Subjectivity in Modern and Postmodern Art and Thought
WGST 349 Women Writers: 1400-1900
WGST 350 Gender and Symbolism
WGST 358 Mapping German Culture: European Women Filmmakers
WGST 365 Gender, Subjectivity, and the History of Photography
WGST 366 Topics in American Literature
WGST 367 American Ecofeminism
WGST 368 Mythologies
WGST 369 Seminar on Beauty and Fragmentation in Modern Art
WGST 372 Survey of Victorian Fiction
WGST 389 Generation X in Literature and Culture
WGST 390 Hispanic Cinema
WGST 400 Constructing Identities in Modern Fiction
WGST 405 Austen Only
WGST 410 The Literary and Historical Image of the Medieval Woman
WGST 412 Women and Women’s Voices in French Literature
WGST 420 Women and Gender in 19th-Century Europe
WGST 422 Feminist Economics
WGST 442 Women in Russian Literature
WGST 448 Disease and Difference: The Body in Visual Culture
WGST 462 20th-21st-Century American Literary Studies
WGST 465 Gender and Health
WGST 470 Sex, Sanctity, and Psychoanalysis
WGST 485 Gender and Hollywood Cinema in the 1950s
WGST 495 Independent Study
WGST 496 Applied Women’s and Gender Studies
WGST 497 Directed Reading
WGST 498 Research in the Study of Women and Gender (F)
WGST 499 Research in the Study of Women and Gender (S)

Requirements for Graduate Certificate in the Study of Women and Gender

The graduate certificate program in the Study of Women and Gender (SWG) is designed to provide interdisciplinary training in the field of women and gender studies to students pursuing a PhD degree at Rice University. Students who have been admitted into a PhD program are eligible to apply to the SWG graduate certificate program. The SWG graduate certificate is not a free-standing degree program; in addition to fulfilling the SWG requirements outlined below, candidates will be required to successfully complete the PhD program into which they have been admitted in order to receive the graduate certificate in SWG. Further information is available on request from the SWG program. For PhD requirements, see the relevant department. For general university requirements, see Graduate Degrees (pages 57-58).

The program awards graduate fellowship stipends, within the limits of available funds, to certificate students during the prospectus-writing semester. Although timelines
vary depending on the student’s home department, this semester normally occurs during the semester following the completion of coursework and before passing the qualifying examinations in the PhD program. During the prospectus-writing semester graduate certificate students will be enrolled in WGST 502 “Gender, the Disciplines, and Interdisciplinarity.” Graduate certificate students will be eligible to work as teaching assistants for an SWG undergraduate core or cross-listed course, or in some cases, to teach a course of their own upon approval of the Steering Committee.

For the graduate certificate in SWG, candidates must complete:

- 9 credit hours of courses in SWG, including two core courses (WGST 501 and WGST 502) and one cross-listed elective course (see list of approved courses below)
- 3 non-credit hours for participation in annual colloquium

SWG certificate students are strongly encouraged to include a member of the SWG faculty on their dissertation committee, and to consult regularly with the faculty member as they pursue their dissertation work.

The following courses are those that can be used to fulfill requirements for the graduate certificate. In most cases, students will be able to complete these requirements within the normal time limits for coursework in their PhD program. All students must work out their individual courses of study with the SWG Director and the graduate adviser in their home department. Each student’s course of study must be approved by the SWG Director. 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 2004 and spring 2005, please visit the SWG web site at http://swg.rice.edu.

I. Courses that Satisfy the Core Graduate Certificate Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>WGST 501</td>
<td>Feminist Debates</td>
</tr>
<tr>
<td>WGST 502</td>
<td>Gender, the Disciplines, and Interdisciplinarity</td>
</tr>
</tbody>
</table>

II. Courses that Satisfy the Cross-listed Elective Course Requirement

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>WGST 505</td>
<td>Courtly Love in Medieval France</td>
</tr>
<tr>
<td>WGST 510</td>
<td>The Literary and Historical Image of the Medieval Woman</td>
</tr>
<tr>
<td>WGST 520</td>
<td>Shakespeare and Difference</td>
</tr>
<tr>
<td>WGST 522</td>
<td>Feminist Economics</td>
</tr>
<tr>
<td>WGST 523</td>
<td>Directed Reading in Women’s and Gender History</td>
</tr>
<tr>
<td>WGST 525</td>
<td>Society in Ancient Greece</td>
</tr>
<tr>
<td>WGST 534</td>
<td>French Feminist Theory</td>
</tr>
<tr>
<td>WGST 542</td>
<td>Victorian Fiction</td>
</tr>
<tr>
<td>WGST 545</td>
<td>Women and Gender: Europe and Beyond</td>
</tr>
<tr>
<td>WGST 546</td>
<td>20th-Century British Literature</td>
</tr>
<tr>
<td>WGST 551</td>
<td>U.S. Women’s History</td>
</tr>
<tr>
<td>WGST 561</td>
<td>Modern French Sexualities</td>
</tr>
<tr>
<td>WGST 576</td>
<td>Topics in U.S. Women's History</td>
</tr>
<tr>
<td>WGST 577</td>
<td>Buddhism, Gender, Society</td>
</tr>
<tr>
<td>WGST 580</td>
<td>Sex, Sanctity, and Psychoanalysis</td>
</tr>
<tr>
<td>WGST 581</td>
<td>Cultural Studies</td>
</tr>
<tr>
<td>WGST 585</td>
<td>Postcolonialism and After</td>
</tr>
</tbody>
</table>

III. Annual Colloquium Requirement

Graduate certificate students will participate in a colloquium involving a series of four speakers over the course of a year, to be offered annually at Rice and organized by SWG. Colloquium attendance by graduate certificate students constitutes an official requirement for the certificate. Colloquium topics will be determined by the SWG Steering Committee with a view to highlighting emerging knowledge in the field of women’s studies. The colloquium will provide graduate students with the opportunity to engage in sustained intellectual exchange with leading women’s studies scholars and to participate in cutting edge work in the field.
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
Darra Keeton
John Sparagana

**Artist Teacher**
Gary Feuge
Paul Hester
Prince Thomas

**Degrees Offered: BA, BFA**

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 BA in Visual Arts**

For general university requirements, see Graduation Requirements (pages 14–15).

**Single Major Track in Visual Arts**
*(12 courses required)*

- ARTV 225 Drawing I
- ARTV 205 Photography I or ARTV 311 Intaglio I
- ARTV 301 Painting I or ARTV 325 Life Drawing or ARTV 337 Color Drawing or ARTV 425 Advanced Drawing
- ARTV 365 Sculpture I
- 6 ARTV electives
- 2 courses in art history (HART)—open selections qualified by course prerequisites and consultation with the studio art faculty adviser

**Double Major Track in Visual Arts**
*(10 courses required)*

- ARTV 225 Drawing I
- ARTV 205 Photography I or ARTV 311 Intaglio I
- ARTV 301 Painting I or ARTV 325 Life Drawing or ARTV 337 Color Drawing or ARTV 425 Advanced Drawing
- ARTV 365 Sculpture I
- 5 ARTV electives
- 2 courses in art history (HART)—open selections qualified by course prerequisites and consultation with the studio art faculty adviser

**Degree Requirements for the Bachelor of Fine Arts (BFA)**

Students with a BA degree in art from Rice or an equivalent degree from another university may apply for admission to the Bachelor of Fine Arts (BFA) program, which consists of a fifth year of intensive study in the creative arts. Students with a BA 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 BFA 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 BFA 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 2 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 ARTV and HART in the Courses of Instruction section.*
ADMINISTRATION

President .................................................. David W. Leebro
Assistant to the President ................................... Mark Scheid
Provost .................................................. Eugene H. Levy
Vice Provost for Academic Affairs ........................... Walter Isle
Vice Provost for Research and Graduate Studies .............. Jordan Konisky
Vice Provost for Information Technology ........................ Kamran Khan
Vice Provost and University Librarian ........................ Charles Henry
Associate Provost ........................................ Roland B. Smith, Jr.
Vice President for Student Affairs .......................... Zenaido Camacho
Vice President for Finance and Administration .................... Dean W. Currie
Vice President for Investments and Treasurer ..................... Scott W. Wise
Vice President for Enrollment ................................ Ann Wright
Vice President for Public Affairs ............................ Terry Shepard
Vice President for Resource Development ........................ Eric C. Johnson
General Counsel .......................................... Richard A. Zantis
Director of the James A. Baker III Institute for Public Policy ................ Edward P. Djerejian
Dean of the School of Humanities .............................. Gary S. Wihl
Dean of the George R. Brown School of Engineering .............. C. Sidney Burrus
Dean of the Shepherd School of Music ........................... Robert Yekovich
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.

ADMINISTRATIVE OFFICES

Academic Advising ........................................... Michele Daley
Administrative Systems ..................................... Randy Castiglioni
Admission .................................................. Julie Browning
Affirmative Action/Equal Employment Opportunity .......... Russell Barnes
Alumni Affairs ............................................. Mark Davis
Athletics ................................................... J. R. “Bobby” May
Budget Office ............................................. Kathy Collins
Campus Store .............................................. Michelle Jones Vanderwater
Career Services ............................................ Cheryl Matherly
Cashier’s Office ........................................... Patricia C. Ciampi
Community Involvement Center ................................. Mac Griswold
Controller’s Office ......................................... Evelyn Stewart
Counseling Center .......................................... Lindley Doran
Delivery Services .......................................... Pat Kamhbu
Disability Support Services ................................... Jean Ashmore
Educational Outreach ....................................... Roland Smith
Educational Technology & Networking Information ............. William Deigaard
Emergency Medical Service (EMS) .......................... Bill Taylor
Enrollment: Administration .................................. Diane Hamlinck
Enterprise Systems and Applications ........................... Andrea Martin
Environmental Health and Safety ................................ Kathryn Cavender
Events Office .............................................. Lauren Linn
Facilities and Engineering .................................... Bill Mack
General Counsels ........................................... Carlos Garcia, Joe Davidson
Housing and Dining ......................................... Mark Ditman
Human Resources ......................................................... Mary A. Cronin
Information Technology Client Services ................................................................. John Ferro
Information Technology & Telecommunications ...................................................... David Tenney
Institutional Research ............................................................ Leona Urbish
International Programs (Study/Work Abroad) ................................................. Shannon Cates, Cheryl Matherly
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 ............................................................................................... Margot Dindom
Registrar’s Office .......................................................................................... TBN
Research and Graduate Studies ................................................................. Debra Purtee
Scholarships and Fellowships .................................................................... Patricia Bass
Sponsored Research ....................................................................................... Jordan Konisky
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
Wellness Center ............................................................................................... Emily Page

**COLLEGE MASTERS**

Baker College ............................................................... Jose Aranda and Krista Comer
Brown College ................................................................. John and Paula Hutchinson
Hanszen College ............................................................... Wesley and Barbara Morris
Jones College ................................................................. Robin Forman and Ann Owens
Lovett College ................................................................. Bernard and Carolyn Aresu
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

BS (1945) Texas Technological College; MS (1944) University of Texas at Austin; PhD (1950) University of Michigan

Alcover, Madeleine, 1975–2004. Professor Emerita of French
Licence de lettres modernes (1962), Diplôme d’études supérieures (1963), Doctorat de 3e cycle (1965) France

BA (1953) Willamette University; MA (1954) Stanford University; Certificat d’études politiques (1955) University of Bordeaux; PhD (1964) University of California at Berkeley

BSCE (1951), MS (1954) University of Arkansas; PhD (1964) University of California at Berkeley

BA (1963), University of Michigan, MA (1965) Stanford University, PhD (1970) University of Michigan

Awapara, Jorge, 1957–84. Professor Emeritus of Biochemistry
BS (1941), MS (1942) Michigan State University; PhD (1947) University of Southern California

BA (1955) University of Colorado; MBA (1959) Harvard Graduate School of Business Administration

Baker, Donald Roy, 1966. Professor Emeritus of Geology and Honorary Associate of Brown College
BS (1950) California Institute of Technology; PhD (1955) Princeton University

BS (1957) Duke University; MS (1959), PhD (1963) Yale University

Bale, Allen M., 1947–78. Athletic Director Emeritus
BS (1930) Rice Institute; MA (1939) Columbia University

Bally, Albert W., 1981–96. Harry Carothers Wiess Professor Emeritus of Geology
PhD (1953) University of Zurich, Switzerland

Barker, J. R., 1949–86. Professor Emeritus of Health and Physical Education
BS (1949) Rice Institute; MEd (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

BS (1968) University of California at Berkeley; MS (1971), PhD (1972) Cornell University


BA (1959) Kansas University; MFA (1965) Columbia University

BA (1960), MA (1961) Texas Christian University; PhD (1965) University of Texas at Austin

Brotzen, Franz Richard, 1954–86. Stanley C. Moore Professor Emeritus of Materials Science
BS (1950), MS (1953), PhD (1954) Case Institute of Technology

Brown, Katherine Tsanoff, 1963–89. Professor Emerita of Art History and Honorary Associate of Will Rice College
BA (1938) Rice Institute; MFA (1940) Cornell University

Burt, George, 1984, 1989. Professor Emeritus of Theory and Composition

BA (1960), MA (1961) Texas Christian University; PhD (1965) University of Texas at Austin

AB (1957) Princeton University; MA (1961), PhD (1964) Yale University

BS (1953) Southwest Missouri State University; MS (1955) University of Illinois; PhD (1958) University of Oklahoma

Cason, Carolyn, 1956–74. Lecturer Emerita in Dietetics
BS (1934) University of Texas at Austin; MA (1939) Columbia University

Chapman, Alan Jesse, 1946–95. Harry S. Cameron Professor Emeritus of Mechanical Engineering
BSME (1945) Rice Institute; MS (1949) University of Colorado; PhD (1953) University of Illinois

Clark, Howard Charles, 1966–88. Professor Emeritus of Geology and Geophysics
BS (1959) University of Oklahoma; MA (1965), PhD (1967) Stanford University
Class, Calvin M., 1952–85. Professor Emeritus of Physics
  AB (1943), PhD (1951) John Hopkins University

  BA (1961) University of Colorado; PhD (1965) Cornell University

Daichman, Graciela S., 1973–99. Lecturer Emerita of Hispanic Studies
  Profesorado (1959) Instituto Nacional del Profesorado en Lenguas Vivas, Argentina;

  BA (1961) University of Texas at Austin; MA (1966), PhD (1969) Princeton University

Davis, Philip W., 1969–2003. Agnes Cullen Arnold Professor Emeritus of Linguistics
  BA (1961) University of Texas at Austin; PhD (1965) Cornell University

Davis, Jr., Sam H., 1957–2000. Professor Emeritus in Chemical Engineering and Computational and Applied Mathematics
  BA (1952), BS (1953) Rice Institute; ScD (1957) Massachusetts Institute of Technology

De Bremaecker, Jean-Claude, 1959–94. Professor Emeritus of Earth Science
  Ingenieur Civil des Mines (1948) University of Louvain, Belgium; MS (1950) Louisiana State University; PhD (1952)
  University of California at Berkeley

  BS (1962); MS (1964) University of Miami; PhD (1966) University of Utah

  BS (1952) California Institute of Technology; PhD (1956) Duke University

  AB (1958) Duke University; AM (1960), PhD (1964) Harvard University

Drew, Katherine Fischer, 1950–96. Lynette S. Autrey Professor Emerita of History
  BA (1944), MA (1945) Rice Institute; PhD (1950) Cornell University

Dyson, Derek C., 1966–2000. Professor Emeritus of Chemical Engineering
  BA (1955) University of Cambridge; PhD (1966) University of London

  BA (1938) Oklahoma State University; MFA (1954) Yale University

Fish, Jr., Frank M., 1963–2002. Professor Emeritus of Biology
  BA (1953) Hanover College; MS (1958), PhD (1961) Purdue 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
  BS (1957) Beloit College; MS (1961); PhD (1963) University of Iowa

  BS (1948) Trinity College, Dublin; MSc (1949) Carnegie Mellon University; PhD (1953) Princeton University

Gordon, Chad, 1970–99. Professor Emeritus of Sociology
  BS (1957), MA (1962), PhD (1965) University of California at Los Angeles

Gordon, William E., 1965–85. Distinguished Professor Emeritus of Space Physics and Astronomy and of Electrical and
  Computer Engineering
  BA (1939), MA (1942) Montclair State College; MS (1946), PhD (1953) Cornell University

  BA (1952) Utica College; MA (1957), PhD (1961) University of Wisconsin at Madison

Hackerman, Norman, 1970–85. President Emeritus and Distinguished Professor Emeritus of Chemistry
  AB (1932), PhD (1935) Johns Hopkins University

Hake, Evelyn, 1932–74. Lecturer Emerita in Biology
  BA (1930), MA (1932) Rice Institute

Hale, Elton B., 1963–79. Professor Emeritus of Accounting
  BS (1937), MA (1940) Southwest Texas State Teachers College; PhD (1948) University of Texas at Austin

  BA (1952) Universidad de la Republica; MA (1987) Rice University

  BS, MA (1963) Carnegie Institute of Technology; PhD (1966) Stanford University

  BA (1956) Rice Institute; MA (1959) Indiana University
Haynes, Robert C., 1968–98. Professor Emeritus of Space Physics and Astronomy
BA (1952), MS (1953), PhD (1959) New York University

Heymann, Dieter, 1966–98. Professor Emeritus of Geology and Geophysics
MS (1954), PhD (1958) University of Amsterdam, The Netherlands

Hightower, Joe W., 1967–91. Professor Emeritus of Chemical Engineering
MS (1961), PhD (1963) John Hopkins University

Hodges, Lee, 1930–71. Professor Emeritus of French
BS (1930) Harvard University; MA (1934) Rice Institute

SB (1945), SM (1947) Massachusetts Institute of Technology; PhD (1956) Pennsylvania State University

Huddle, Donald L., 1964–92. Professor Emeritus of Economics
BS (1959), MA (1960) University of California at Los Angeles; PhD (1964) Vanderbilt University

BA (1948) University of California at Los Angeles; MA (1950), PhD (1952) Columbia University

Jitcoff, Andrew N., 1950–72. Professor Emeritus of Russian
Bachelor (1928), Master (1931) Prague Institute of Technology, Czechoslovakia

BA (1957) Millsaps College; MA (1958), PhD (1960) Eastman School of Music, University of Rochester

BS (1960), MS (1962) University of Cincinnati; MS (1965), PhD (1968) University of Michigan

Kiperman, Anita, 1976–98. Lecturer Emerita of Spanish
BA (1957) Universidad Nacional de Buenos Aires; MA (1971) University of Houston

Kobayashi, Riki, 1951–97. Louis Calder Professor Emeritus in Chemical Engineering
BS (1944) Rice Institute; MSEE (1947), PhD (1951) University of Michigan

Kobayashi, Riki, 1951–97. Louis Calder Professor Emeritus in Chemical Engineering
BS (1944) Rice Institute; MSEE (1947), PhD (1951) University of Michigan

BA (1951) Yale University; PhD (1958) University of California at Berkeley

Laughery, Kenneth R., 1982–2002. Herbert S. Autrey Professor Emeritus of Psychology and Research Professor
BS (1957), MS (1959), PhD (1961) Carnegie Mellon University

Leal, Maria Teresa, 1965–96. Professor Emerita of Spanish and Portuguese
BA (1946) Pontificia Universidade Católica, Brazil; PhD (1965) Universidade Federal de Rio de Janeiro, Brazil

Lecuyer, Maurice Antoine, 1962–79. Professor Emeritus of French
Baccalauréat es lettres (1937), Licence es lettres (1943), Diplome d’études superieures (1944) Universite de Paris, France; PhD (1954) Yale University

BS (1962) North Texas State University; MEd (1967) Sam Houston State University; EdD (1974) Louisiana State University

Leeds, Jr., J. Venn, 1964–89. Professor Emeritus of Electrical and Computer Engineering
BA (1955), BSEE (1956) Rice Institute; MSEE (1960), PhD (1963) University of Pittsburgh; JD (1972) University of Houston

Lewis, Edward S., 1948–90. Professor Emeritus of Chemistry
BS (1940) University of California at Berkeley; PhD (1947) Harvard University

Meixner, John, 1968–95. Professor Emeritus of English
BA (1951) City College of New York; MA (1953), PhD (1957) Brown University

Merwin, John E., 1955–98. Professor Emeritus of Civil and Environmental Engineering
BA (1952), BSM.E. (1953), MSME (1955) Rice Institute; PhD (1962) University of Cambridge

BA (1955), PhD (1962) California Institute of Technology

Miele, Angelo, 1964–93. Foy Family Professor Emeritus in Mechanical Engineering and Materials Science and Computational and Applied Mathematics
Dr. CE (1944), Dr. AE (1946) University of Rome

Milburn, Ellsworth, 1975–99. Professor Emeritus of Composition and Theory

BA (1957), MA (1959) North Texas State University; BD (1961), PhD (1965) Yale University
   BA (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
   BA (1942) George Pepperdine University; B.D. (1946), PhD (1951) Yale University

   BS (1957), MS (1958) University of Michigan; PhD (1962) University of California at Berkeley

O’Dell, Charles Robert, 1965–82. Professor Emeritus of Astrophysics
   BSEd (1959) Illinois State University; PhD (1962) University of Wisconsin at Madison

Oliver, Covy, 1979–81. Radoslav A. Tsanoff Professor Emeritus of Public Affairs
   BA (1933), JD (1936) University of Texas at Austin; LLM (1953), SJD (1954) Columbia University; LL.D (1976) Southern Methodist University

Oliver-Smith, Philip, 1969–82. Professor Emeritus of Art History
   BA (1957), MA (1950) University of California at Berkeley; PhD (1969) New York University

   BFA (1936), MFA (1939) University of Oklahoma

   BS (1957), PhD (1962) University of Sheffield

Parsons, David G., 1953–81. Professor Emeritus of Art and Honorary Associate of Will Rice College
   BS (1934), MS (1937) University of Wisconsin

   BSEE (1958), MSEE (1959) University of Arkansas; PhD (1962) Purdue University

Pfeiffer, Paul E., 1947–97. Professor Emeritus of Computational and Applied Mathematics
   BSEE (1938) Rice Institute; B.D. (1943) Southern Methodist University; MSEE (1948), PhD (1952) Rice Institute

Philpott, Charles William, 1964–96. Professor Emeritus of Ecology and Evolutionary Biology
   BA (1957), MS (1958) Texas Technological College; PhD (1962) Tulane University

   BA (1951) Harvard University; MA (1952) Columbia University; PhD (1958) University of Wisconsin at Madison

Pointdexter, Hally Beth W., 1965–98. Professor Emeritus of Kinesiology
   BA (1947) Rice Institute; BS (1949) University of Houston; MA (1950) University of Northern Colorado; EdD (1957) Columbia University

   BS (1956) University of Notre Dame; MS (1961), PhD (1966) University of Chicago

Raaphorst, Madeleine Rousseau, 1963–89. Professor Emerita of French
   Baccalaureat es lettres (1939) Universite de Poitiers, France; Licence en droit (1943) Universite de Paris, France; PhD (1959) Rice Institute

   BA (1954), BSEE (1955), MA (1957), PhD (1959) Rice Institute

Rachford, Jr., Henry H., 1964–82. Professor Emeritus of Mathematical Sciences
   BS (1945), MA (1947) Rice Institute; Sc.D. (1950) Massachusetts Institute of Technology

   BArch (1947) Carnegie Institute of Technology; MArch (1967) Texas A&M University

Rea, Joan, 1968–2000. Professor Emerita of Hispanic Studies
   BA (1954) New York University; MA (1964) University of Houston; PhD (1970) University of Texas at Austin

   BA (1958) Rosary College; MMus (1960), PhD (1966) University of Illinois

Sims, James R., 1942–87. Herman and George R. Brown Professor Emeritus of Civil and Environmental Engineering
   BS (1941) Rice Institute; MS (1950), PhD (1956) University of Illinois

   AB (1956) Washington University; PhD (1966) Harvard University

Spence, Dale W., 1963. Professor Emeritus of Kinesiology
   BS (1956) Rice Institute; MS (1959) North Texas State University; EdD (1966) Louisiana State University

Stebbins, Ronald F., 1968–95. Professor Emeritus of Space Physics and Astronomy
   BSc (1952), PhD (1956) University College, London
Stormer, Jr., John C., 1983–95. Croneis Professor Emeritus of Geology
AB (1965) Dartmouth College; PhD (1971) University of California at Berkeley

BA (1949) Hobart College; MA (1952), PhD (1955) University of Missouri

Thrall, Robert, 1969–84. Noah Harding Professor Emeritus of Mathematical Sciences and Professor Emeritus of Administrative Science
BA, MA (1935) Illinois College; PhD (1937) University of Illinois

BA (1943), MEA (1949) Princeton University

Trammell, George T., 1961–93. Professor Emeritus of Physics
BA (1944) Rice Institute; PhD (1950) Cornell University

Trepel, Shirley, 1975–94. Professor Emerita of Violoncello
BMus (1945) Curtis Institute of Music

Profesorado (1956) La Plata National University, Argentina; PhD (1968) Stanford University

AB (1952) Dartmouth College; MS (1953), PhD (1959) Northwestern University

BEng (1962), MS (1964) Stevens Institute of Technology; MA (1967) University of Michigan; PhD (1970) University of London

BA (1948) University of the Pacific; MA (1950) Claremont Graduate School; PhD (1957) University of California at Berkeley

Wadsworth, Philip A., 1964–73. Professor Emeritus of French
AB (1935), PhD (1939) Yale University

BS (1943) Rice Institute; MA (1949), PhD (1952) University of Texas at Austin

Wall, Frederick T., 1972–79. Professor Emeritus of Chemistry
BC (1935), PhD (1937) University of Minnesota

Walters, G. King, 1963–99. Sam and Helen Worden Professor Emeritus of Physics
BA (1953) Rice Institute; PhD (1956) Duke University

BS (1959) National Taiwan University; PhD (1965) Johns Hopkins University

BA (1962) Rice University; MS (1964), PhD (1965) New York University

BA (1951) Yale University; MA (1956) Columbia University; PhD (1975) New York University

Wilson, Joseph B., 1954–98. Professor Emeritus of German
BA (1950), MA (1953) Rice Institute; PhD (1960) Stanford University

Winkler, Michael, 1967–2000. Professor Emeritus of German
BA (1961) St. Benedict's College; MA (1965), PhD (1966) University of Colorado

BEngPhys (1962) Cornell University; PhD (1966) California Institute of Technology


BA (1951), MA (1954) University of Minnesota; PhD (1965) Carnegie Institute of Technology

Aazhang, Behnaam, 1985. J.S. Abercrombie Professor in Electrical and Computer Engineering

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
BA (1991) Baylor University; MSW (1996), PhD (2001) University of Houston

Adnan, Sarmad, 2001. Adjunct Assistant Professor of Mechanical Engineering and Materials Science

Advani, Vikram S., 1993. Adjunct Assistant Professor of Computer Science

Akin, John Edward, 1983. Professor of Mechanical Engineering and Computational and Applied Mathematical and Physical Sciences
BS (1964) Tennessee Polytechnic Institute; MS (1966) Tennessee Technological University; PhD (1968) Virginia Polytechnic Institute

Albin, Verónica S., 1998. Senior Lecturer in Spanish
BA (1989) Millersville University of Pennsylvania

Alemany, Lawrence B., 1994. NMR Manager, Senior Research Scientist, and Lecturer of Chemistry
BS (1975) City College of New York; PhD (1980) University of Chicago

Alexander, David, 2003. Andrew Hays Buchanan Associate Professor of Astrophysics and Associate Professor of Physics and Astronomy
BSc (1985), PhD (1988) University of Glasgow

Alford, John R., 1985. Associate Professor of Political Science
BS (1975), MPA (1977) University of Houston; MA (1980), PhD (1981) University of Iowa

Allen, Paul, 1997. Adjunct Professor in the Practice of Management


Al-Zand, Karim, 2002. Lynette S. Autrey Chair Assistant Professor of Composition and Theory

Amos, Christopher I., 2001. Adjunct Professor of Statistics
BA Reed College; MS, PhD Louisiana State University Medical Center

Anderson, John B., 1975. W. Maurice Ewing Chair in Oceanography and Professor of Earth Science
BS (1968) University of South Alabama; MS (1970) University of New Mexico; PhD (1972) Florida State University

Anderson, Shannon, 2001. Associate Professor of Management

Anding, Roberta H., 1997. Lecturer of Kinesiology
BS (1977), MS (1980) Louisiana State University

Antoulas, Athanasios C., 1985. Professor in Electrical and Computer Engineering
Dip. in Electrical Engineering (1975), Dip. in Mathematics (1975), PhD (1980) Eidgenössische Technische Hochschule, Switzerland

Anvari, Bahman, 1998. Associate Professor in Bioengineering

Aranda, Jr., José E., 1994. Associate Professor of English

Aresu, Bernard, 1977. Professor of French Studies and Master of E. O. Lovett College
Licence es lettres (1967) Université de Montpellier, France; PhD (1975) University of Washington

Armeniades, Constantine D., 1969. Professor in Chemical Engineering
BS (1961) Northeastern University; MS (1967) Case Institute of Technology; PhD (1969) Case Western Reserve University

Armstrong, James D., 2002. Adjunct Assistant Professor of Biochemistry and Cell Biology
BS (1992), PhD (1996) University of Glasgow, Scotland

Ashmore, Jean, 2002. Lecturer on Education Certification
BA (1973) University of California at Los Angeles; MS (1976) California State University

Athanasiou, Kyriacos, 2000. Karl F. Hasselmann Professor of Bioengineering

Atherhold, Robert, 1984. Professor of Oboe
BMus (1976), MMus (1977) Juilliard School of Music

Atherton, Jr., W. Clifford, 1988. Lecturer on Management
BA (1971) Rice University; MBA (1977), PhD (1983) University of Texas at Austin
Atkinson, E. Neely, 1985. Adjunct Professor of Statistics
BA (1975), MA, PhD (1981) Rice University

Attieh, Aman, 2001. Senior Lecturer of Arabic
BA (1969), MA (1972) American University of Beirut; PhD (1978) University of Texas at Austin

Audet, Charles, 2001. Adjunct Assistant Professor of Computational and Applied Mathematics
BS (1992) University of Ottawa, Canada; MS (1993), PhD (1997) École Polytechnique, Montreal, Canada

Austgen, David M., 1997. Adjunct Professor of Management

Avé Lallemant, Hans G., 1970. Professor of Earth Science and Associate of Sid Richard College
BA (1960), MA (1964), PhD (1967) University of Leiden

Badgwell, Thomas A., 2000. Adjunct Associate Professor in Chemical Engineering
BS (1982) Rice University; MS (1990), PhD (1992) University of Texas at Austin

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
BA (1975) University of the Redlands; MA (1981), PhD (1985) University of Southern California

BA (1990), JD (1993) University of Houston; MBA (1997) Rice University

Baker, Lovett, 1986. Lecturer on Management
AB (1952) Princeton University

Banks, Stephen J., 1991. Adjunct Professor in the Practice of Management
BS (1962) Massachusetts Institute of Technology; MBA (1967) Harvard University

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

Barnes, James, Lecturer in the Practice of Management
BA (1978) Princeton University

Barnett, Gregory, 2002. Assistant Professor of Musicology

Baron, Tiqva, 2003. Lecturer of Hebrew
BA (1968) Hebrew University, Jerusalem; MA (1997) Tel Aviv University

Barrera, Enrique V., 1990. Professor of Mechanical Engineering and Materials Science
BS (1979), MS (1985), PhD (1987) University of Texas at Austin

Barrett, Deborah, 1998. Senior Lecturer in Management, Director and Instructor of Management Communications
BA (1972), MA (1977) University of Houston; PhD (1983) Rice University

Barron, Andrew R., 1995. Charles W. Duncan, Jr.–Welch Professor of Chemistry and Professor of Materials Science
BS (1983), PhD (1986) Imperial College of Science and Technology; University of London

Barry, Michael A., 1998. Associate Professor in Bioengineering

Bartel, Bonnie, 1995. Associate Professor of Biochemistry and Cell Biology
BA (1983) Bethel College; PhD (1990) Massachusetts Institute of Technology

Barton, Richard, 2001. Adjunct Assistant Professor in Electrical and Computer Engineering
BA 1976, MS 1984, PhD 1989 University of Illinois

Batsell, Richard R., 1980. Jesse H. Jones Distinguished Associate Professor of Management and Associate Professor of Psychology
BA, BBA (1971), PhD (1976) University of Texas at Austin

Bayazitoglu, Yildiz, 1977. Harry S. Cameron Professor in Mechanical Engineering
BS (1967) Middle East Technological University; MS (1969), PhD (1974) University of Michigan
Beal, Daniel J., 2004. Assistant Professor of Psychology
BA (1994) Florida State University; MS (1996); PhD (2000) Tulane University

Beason-Armendarez, Beth, 2001. Lecturer of Biochemistry and Cell Biology
BS (1990) Auburn University; PhD (1996) University of Alabama

Beckingham, Kathleen M., 1980. Professor of Biochemistry and Cell Biology
BA (1967), PhD (1972) University of Cambridge

Bedient, Philip B., 1975. Herman Brown Professor of Engineering
BA (1969), MS (1972), PhD (1975) University of Florida

Bedner, J. Bee, 1997. Adjunct Professor in Computational and Applied Mathematics
BS (1962) Southwest Texas State University; MA (1964), PhD (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
BS (1969) Northern Arizona University; MA (1972), PhD (1978) University of Texas

Behar, Victor, 1998. Assistant Professor of Chemistry

Beier, Margaret E., 2004. Assistant Professor in Psychology
BA (1988) Colby College; MS (1999); PhD (2005) Georgia Institute of Technology

Bennett, George N., 1978. Professor of Biochemistry and Cell Biology
BS (1968) University of Nebraska; PhD (1974) Purdue University

Berry, Donald, 2000. Adjunct Professor of Statistics
BA (1965) Dartmouth College; MA (1967) Yale University

Bertin, John J., 2003. Adjunct Professor of Mechanical Engineering and Materials Science
BA (1960); MS (1962); PhD (1996) Rice University

Bidani, Akhil, 1994. Adjunct Professor in Electrical and Computer Engineering
BS (1969) Punjab University, India; PhD (1975) University of Houston; MD (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
BSc (1962) University of Assiut, Egypt; MS (1965), PhD (1967) Washington University

BS (1968) University of California at Berkeley; MS (1971), PhD (1972) Cornell University

Black, David C., 1970. Adjunct Professor of Physics and Astronomy
BS (1965), MS (1967), PhD (1970) University of Minnesota

Black, Earl, 1993. Herbert S. Autrey Professor of Political Science
BA (1964) University of Texas at Austin; PhD (1968) Harvard University

Bloem, Suzana Maria Campos Pinto, 1999. Lecturer of Portuguese
BA (1970) Pontificia Universidade Católica de Campinas, Brazil

Bogomolnaia, Anna, 2002. Assistant Professor of Economics

Boles, John B., 1981. William Pettus Hobby Professor of History and Associate of Will Rice College
BA (1965) Rice University; PhD (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
BS (1961) Louisiana Polytechnic Institute; MA (1963), PhD (1965) Rice University

Boom, Marc L., 2000. Adjunct Professor in the Practice of Management

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  
BS (1964) Louisiana State University; PhD (1972) Baylor College of Medicine

Borick, Aladin M., 1997. Adjunct Associate Professor in Computational and Applied Mathematics and Mechanical Engineering and Materials Science and Bioengineering  

Borle, Sharad, 2003. Assistant Professor of Management  

Boschernitzan, Michael, 1982. Professor of Mathematics  
PhD (1981) Weizmann Institute of Science, Israel

Bottero, Jean-Yves, 1996. Adjunct Professor of Civil and Environmental Engineering  
Docteur d’Etat es Sciences Physiques (1979) Université de Nancy, France

Bowern, Claire L., 2004. Assistant Professor of Linguistics  

Boylan, Richard Thomas, 2004. Visiting Associate Professor of Economics  

Braam, Janet, 1990. Professor of Biochemistry and Cell Biology  
BS (1980) Southern Illinois University; PhD (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  

Banton, Regina, 2000. Assistant Professor of Political Science  

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  
BA (1962) Brooklyn College; MA (1965), PhD (1967) Princeton University

Brodgon-Gómez, N. Patricia, 2000. Lecturer of Spanish  

Broker, Karin L., 1980. Professor of Visual Arts  
BFA (1972) University of Iowa; MFA (1980) University of Wisconsin at Madison

Brooks, Philip R., 1964. Professor of Chemistry  
BS (1960) California Institute of Technology; PhD (1964) University of California at Berkeley

Brown, Barry W., 1970. Adjunct Professor of Statistics  
BS (1959) University of Chicago; MS (1961), PhD (1963) University of California at Berkeley

BA (1969), MA (1972) Texas Tech University; PhD (1977) University of Pennsylvania

Brown, James N., 1992. Professor of Economics  
BA (1973) University of Redlands; MA (1975), PhD (1980) University of Chicago

Brown, Richard, 1984. Professor of Percussion and Chair of Percussion and Harp  
BME (1969) Temple University; MMus (1971) Catholic University of America

Brownell, William, 2000. Adjunct Professor in Bioengineering  
SB (1968), PhD (1973) University of Chicago

Browning, Logan D., 1990. Lecturer in Humanities  
BA (1977) University of the South; MA (1980) Oxford University; PhD (1991) University of North Carolina

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
BS (1964) St. Mary's University; PhD (1968) Rice University; MSA (1973) George Washington University

Burgund, E. Darcy, 2003. Assistant Professor of Psychology
BA (1993) Skidmore College; PhD (2000) University of Minnesota

Burnett, Sarah A., 1972. Associate Professor of Psychology
BS (1966) Memphis State University; MS (1970), PhD (1972) Tulane University

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
BA, BSEE (1958) Rice Institute; MS (1960) Rice University; PhD (1965) Stanford University

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 in Electrical and Computer Engineering
BS (1968), MA (1970), PhD (1973) Polytechnic Institute, Brooklyn

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
BA (1964), MA (1967) Baylor University; PhD (1970) University of Texas at Austin

Cannady, William Tillman, 1964. Professor of Architecture
BArch (1961) University of California at Berkeley; March (1962) Harvard University

Caprette, David R., 1992. Lecturer in Biochemistry and Cell Biology
BS (1974) Case Western Reserve University; MS (1979), PhD (1982) Cleveland State University

Carle, Alan, 1998. Faculty Fellow in Computational and Applied Mathematics

Carroll, Beverlee Jill, 1995. Lecturer in Religious Studies and Humanities

BA (1958), MA (1959) University College Galway; PhD (1964) Brown University

Carter, Richard, 1997. Adjunct Professor of Computational and Applied Mathematics
BS (1979) Mississippi State University; PhD (1986) Rice University

Cartwright, Jr., Robert S., 1980. Professor of Computer Science

Casas, Fernando, 1994. Lecturer in Humanities
BA (1970) Colorado College; MA (1972), PhD (1979) Rice University

Casbarian, John Joseph, 1973. Associate Dean of the School of Architecture and Professor of Architecture and Lovett College Master
BA (1969) Rice University; MFA (1971) California Institute of the Arts; BArch (1972) Rice University

Castañeda, James Agustín, 1961. Professor of Spanish, and Honorary Master of Will Rice College
BA (1954) Drew University; MA (1955), PhD (1958) Yale University

Cates, Mary Susan, 2003. Lecturer of Biochemistry and Cell Biology
BS (1995) University of Houston; PhD (2000) Rice University

Cavallaro, Joseph R., 1988. Professor in Electrical and Computer Engineering and Computer Science

Cerillo, Antonio J., 2004. Executive Officer and Associate Professor of Naval Science
BS (1983) University of Wisconsin

Chan, Anthony A., 1993. Associate Professor of Physics and Astronomy

Chance, Jane, 1973. Professor of English
BA (1967) Purdue University; MA (1968), PhD (1971) University of Illinois

Chang, David W., 2002. Adjunct Associate Professor in Bioengineering
BS (1983) University of Wisconsin Madison; MD (1987) University of Wisconsin Medical School
Chang, Yoosoon, 1995. Associate Professor of Economics

Chang-Diaz, Franklin R., 1998. Adjunct Professor of Physics and Astronomy
BS (1975) University of Connecticut; PhD (1977) Massachusetts Institute of Technology

Chapman, Walter G., 1990. Professor in Chemical Engineering

BSc (1992) University of Burdwan; MSc (1995) University of Hyderabad; PhD (2002) Tata Institute of Fundamental Research

Chen, Denise, 2003. Assistant Professor of Psychology

Chen, Lilly C., 1980. Senior Lecturer of Chinese
BA (1961) National Taiwan University; MA (1969), PhD (1974) University of Illinois at Urbana-Champaign

Chen, Shih-Hui, 2000. Assistant Professor of Composition and Theory

Chen, Xiaohong Denise, 2002. Assistant Professor of Psychology

Chiu, Wah, 2004. Adjunct Professor of Computer Science
BA (1969), PhD (1975) University of California at Berkeley

Choi, Hyeokho, 2000. Faculty Fellow in Electrical and Computer Engineering

Cibor, Joseph, 2001. Lecturer on Civil and Environmental Engineering
BS (1976), MS (1978) Purdue University

Citron, Marcia J., 1976. Martha and Henry Malcolm Lovett Distinguished Service Professor of Musicology
BA (1966) Brooklyn College; MA (1968), PhD (1971) University of North Carolina

Ciufolini, Marco A., 2000. Adjunct Professor in Chemistry
BS (1978) Spring Hill College; PhD (1981) University of Michigan

Clark, Jr., John W., 1968. Professor in Electrical and Computer Engineering and Bioengineering
BS (1962) Christian Brothers College; MS (1965), PhD (1967) Case Western Reserve University

Clementi, Cecilia, 2001. Norman Hackerman-Welch Young Investigators Assistant Professor of Chemistry

Cloutier, Paul A., 1967. Professor of Physics and Astronomy
BS (1964) University of Southwestern Louisiana; PhD (1967) Rice University

Cochran, Tim D., 1990. Professor of Mathematics
BS (1977) Massachusetts Institute of Technology; MA (1979), PhD (1982) University of California at Berkeley

Cohen, G. Daniel, 2003. Assistant Professor of History and Associate of Lovett College

Cole, Thomas R., 2004. Professor of Humanities
BA (1971) Yale University, MA (1975) Wesleyan University, PhD (1981) University of Rochester

Colvin, Vicki L., 1996. Professor of Chemistry and in Chemical Engineering
BS (1988) Stanford University; PhD (1994) University of California at Berkeley

Comer, Krista, 1998. Assistant Professor of English

Connelly, Brian, 1984. Artist Teacher of Piano and Piano Chamber Music and Accompanying
BMus (1980), MMus (1983) University of Michigan

Cook, David, 2001. Assistant Professor of Religious Studies

Cooper, Keith D., 1990. Professor of Computer Science and in Electrical and Computer Engineering
BS (1978), MA (1982), PhD (1983) Rice University

Coppola, Eileen, 2000. Lecturer on Education Certification

Corcoran, Marjorie D., 1980. Professor of Physics and Astronomy
BS (1972) University of Dayton; PhD (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
BA (1972) University of Colorado; MS (1976) University of Denver; PhD (1980) University of Washington

Cox, Edward L., 1989. Associate Professor of History and Associate of Martel College
BA (1970) University of the West Indies; MA (1973), PhD (1977) Johns Hopkins University

Cox, Kenneth R., 2000. Lecturer on Chemical Engineering
BS (1974) Ohio State University; MS (1977) University of Illinois; PhD (1979) University of Illinois

Cox, Steven J., 1988. Professor of Computational and Applied Mathematics and Master of Sid Richardson College

Cramer, Evin Joyce, 1997. Adjunct Professor of Computational and Applied Mathematics

Crist, E. Scott, 2000. Lecturer of Management

Cronin, Justin C., 2003. Associate Professor of English

Crosswhite, Katherine, 2004. Assistant Professor of Linguistics

Crowell, Steven G., 1983. Joseph and Joanna Nazro Mullen Professor in Humanities

Crull, Brigitte, 1999. Lecturer of French
Licence d’enseignement (1970) University of Caen, France; MA (1991) University of Houston

Cunningham, Robert A., 1986. Lecturer on Mechanical Engineering and Materials Science
AA (1945) Schriner Institute; BSME (1949), MSME (1955) Rice Institute

Cunningham, Terence, 2004. Adjunct Professor in the Practice of Management
BS (1967) California State University; MS (1974) George Washington University

Curl, Jr., Robert F., 1958. University Professor and Kenneth S. Pitzer-Schlumberger Professor of Chemistry
BA (1954) Rice Institute; PhD (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

Cuthbertson, Gilbert Morris, 1963. Professor of Political Science
BA (1959) University of Kansas; PhD (1963) Harvard University

Cutler, Scott E., 2001. Adjunct Professor in Electrical and Computer Engineering
BS (1973), MS (1973) PhD (1976) Massachusetts Institute of Technology

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. Lecturer on Management and Associate Director of Academic Advising

Danbom, Stephen, 2001. Adjunct Professor of Earth Science


Dannemiller, James L., 2003. Lynette S. Autrey Professor of Psychology
BA (1974) Northwestern University; PhD (1983) University of Texas at Austin

Datta, Evelyne D., 1987. Senior Lecturer of French
MA (1979) University of Houston; PhD (1987) Rice University; Maîtrise de Philologie romane (1966) University of Ghent (Belgium)
deChambrier, Janet, 1997. Artist Teacher of Opera Studies
    BM (1975), MM (1980) Northwestern University School of Music

Deem, Michael, 2002. John W. Cox Professor in Biochemical and Genetic Engineering and Professor of Physics and Astronomy
    BS (1991) California Institute of Technology; PhD (1994) University of California at Berkeley

DeLaura, Louis P., 1988. Lecturer of Architecture

Dennis, John E., 1979. Research Professor of Computational and Applied Mathematics
    BS (1962), MS (1964) University of Miami; PhD (1966) University of Utah

DerHovsepian, Joan, 2001. Instructor of Viola Orchestral Repertoire


Derrick, Scott S., 1990. Associate Professor of English
    BA (1975) Albright College; MA (1978) University of Chicago; PhD (1987) University of Pennsylvania

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
    BS (1966) Instituto Tecnologico y de Estudios Superiores de Monterrey;
    MS (1968) Centro Interamericano de Enseñanza de Estadistica; PhD (1985) Oklahoma State University

Dickens, Gerald R., 2001. Associate Professor of Earth Science and Associate of Baker College
    BS (1989) University of California, Davis; MS (1993), PhD (1996) University of Michigan

Dickinson, Debra, 1993. Artist Teacher of Opera Studies
    BS (1975) Northwestern University; MA (1991) Hunter College

Diddel, Roberta M., 1985. Instructor of Psychology
    BA (1976) Wesleyan University; PhD (1989) Boston University

Dietz, Elizabeth A., 2002. Assistant Professor of English

Disch, James G., 1973. Associate Professor of Kinesiology
    BS (1969), MED (1970) University of Houston; PED (1973) Indiana University

    BA (1973), MA (1976), PhD (1976) University of Oxford

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
    BS (1960); Doctor of Humanities (Hon) (1992) Georgetown University

Do, Kim-Anh, 1999. Adjunct Associate Professor of Statistics
    BS (1983) Queensland University; MS (1985) Stanford University; PhD (1990) Stanford University

Dodds, Stanley A., 1977. Associate Professor of Physics and Astronomy and Associate of Wiess College
    BS (1968) Harvey Mudd College; PhD (1975) Cornell University

    BA (1975) University of Texas, Austin; PhD (1981) Cornell University

Donato, Katharine M., 2000. Associate Professor of Sociology and Master of Wiess College

Dongarra, Jack, 1988. Adjunct Professor in Computer Science
    BS (1972) Chicago State University; MS (1973) Illinois Institute of Technology; PhD (1980) University of New Mexico

Doody, Terrence Arthur, 1970. Professor of English

Doran, Lindley E., 1991. Adjunct Associate Professor of Psychology
    PhD (1976) University of Illinois

Dove, Charles, 2001. Lecturer of Art History
Downing, Christopher T., 2004. Assistant Professor of Management
BA (1990) University of Wisconsin, Madison; PhD (1998) University of California, Berkeley
Downs, Thomas D., 1971. Adjunct Professor of Statistics
BS (1960) Western Michigan University; MPH (1962), PhD (1965) University of Michigan
Dravis, Jeffrey, J., 1987. Adjunct Professor of Earth Science
BS (1971) St. Mary’s University; MS (1977) University of Miami; PhD (1980) Rice University
Drezek, Rebekah Anna, 2002. Stanley C. Moore Assistant Professor in Bioengineering and in Electrical and Computer Engineering
BSE (1996) Duke University; PhD (2001) University of Texas at Austin
Driskill, Linda P., 1970. Professor of English and Management Communications
BA (1961), MA (1968), PhD (1970) Rice University
Droxlxer, André W., 1987. Associate Professor of Earth Science
MS (1978) University of Neuchatel; PhD (1984) University of Miami
Druschel, Peter, 1994. Professor of Computer Science and in Electrical and Computer Engineering
Dipl-Ing (1986) Fachhochschule Munich, Germany; MS (1990), PhD (1994) University of Arizona
Du, Rui-Rui, 2004. Professor of Physics and Astronomy
BS (1982) Fudan University; PhD (1990) University of Illinois
Duck, Ian M., 1963. Professor of Physics and Astronomy
BS (1955) Queen’s University, Canada; PhD (1961) California Institute of Technology
Dudey, Marc Peter, 1990. Associate Professor of Economics
Dufour, Reginald J., 1975. Professor of Physics and Astronomy
BS (1970) Louisiana State University; MS (1971), PhD (1974) University of Wisconsin at Madison
Dugan, Brandon, 2004. Assistant Professor of Earth Science
Dunham, James E., 2001. Professor of Viola and Chamber Music
BFA (1972), MFA (1974) California Institute of the Arts
Dunn, Susan, 2002. Lecturer in Voice
Dunning, F. Barry, 1972. Sam and Helen Worden Professor of Physics and Astronomy
BSc (1966), PhD (1969) University College, London
Durrani, Ahmad J., 1982. Professor of Civil and Environmental Engineering
BSCE (1968) Engineering University, Pakistan; MS (1975) Asian Institute of Technology, Thailand; PhD (1982) University of Michigan; MBA (1999) University of Houston
Elder, Margret, 1973. Professor of German and Slavic Studies
BA (1962), MA (1964), PhD (1969) University of California at Berkeley
Eisner, Elmer, 1988. Adjunct Professor of Computational and Applied Mathematics
BS (1939) Brooklyn College, PhD (1943) Johns Hopkins University
El-Bakry, Amr, 1998. Adjunct Associate Professor of Computational and Applied Mathematics
el-Dahdah, Fares, 1996. Associate Professor of Architecture
Elden, J. Maxwell, 1988. Adjunct Professor of Psychology
BA (1962) University of California at Berkeley; MA (1967) California State University at San Diego; MA (1971), PhD (1976) University of California at Los Angeles
Eliot, John F., 2000. Lecturer of Kinesiology
Ellenzenwag, Sarah, 2000. Assistant Professor of English
Ellison, Paul V. H., 1975. Lynette S. Autrey Professor of Double Bass and Chair of Strings
BME (1965) Eastern New Mexico University; MM (1966) Northwestern University
Embree, Mark P., 2001. Assistant Professor of Computational and Applied Mathematics
Emden, Christian, 2003. Assistant Professor of German

Engel, Paul S., 1970. Professor of Chemistry
BS (1964) University of California at Los Angeles; PhD (1968) Harvard University

Engelhardt, Jr., Hugo Tristram, 1982. Professor of Philosophy
BA (1963), PhD (1969) University of Texas at Austin; MD (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
BA (1982) Stanford University; MD (1986) Baylor College of Medicine

Epstein, Marc J., 1998. Distinguished Research Professor of Management
BA (1968) San Francisco State University; MBA (1970), PhD (1973) University of Oregon

Etnyre, Bruce, 1984. Professor of Kinesiology
BS (1973) Valparaiso University; MS (1977) Purdue University; PhD (1984) University of Texas at Austin

Evans, Gregory, 1998. Adjunct Professor in Bioengineering
BS (1980) University of Southern California; MD (1985) University of Southern California School of Medicine

Fabian, Marian, 1998. Senior Faculty Fellow in Biochemistry and Cell Biology

Fagan, Michael W., 2000. Faculty Fellow in Computational and Applied Mathematics

Farwell, Joyce, 1994. Professor of Voice
BME (1956), MME (1958) University of Oklahoma; DMA (1976) College Conservatory of Music, University of Cincinnati

Faubion, James D., 1993. Professor of Anthropology and Associate of Jones College
BA (1980) Reed College; MA (1984), PhD (1990) University of California at Berkeley

Feeback, Daniel L., 1997. Adjunct Associate Professor of Biosciences and Bioengineering
BS (1978) Missouri Western State College; PhD (1982) University of Oklahoma Health Sciences Center

Ferrill, June O., 1998. Lecturer of Managerial Studies
BA (1964) University of Texas; MEd (1971) University of Houston; PhD (1977) University of Michigan

Ferris, David, 1998. Assistant Professor of Musicology

Fette, Julie, 2004. Visiting Assistant Professor in French Studies

Feuge, Gary, 2003. Teacher Artist of Printmaking Department of Visual Arts

Few, Jr., Arthur A., 1970. Professor of Physics and Astronomy and Environmental Science and Master of Martel College
BS (1962) Southwestern University; MBS (1965) University of Colorado; PhD (1969) Rice University

Finger, Jerry E., 1996. Adjunct Professor in the Practice of Management
BS (1954) University of Pennsylvania

Finley, Dawn, 2001. Assistant Professor of Architecture

Fischer, Jeanne K., 1992. Artist Teacher of Piano and Collaborative Skills

Fisher, Ronald E., 2003. Adjunct Assistant Professor in Psychology
BA (1982) Brandeis University; PhD (1990), MD (1991) Baylor College of Medicine

Flatt, Robert N., 1987. Adjunct Professor in the Practice of Management

Fleming, Jeffrey, 1993. Associate Professor of Management

Fletcher, Katherine E., 2003. Lecturer on Electrical and Computer Engineering
BA (1987); BS (1987); MS (1994) Rice University
Foote, Jill, 2003. Lecturer of Management  

Foreman, Jason, 2004. Lecturer of Theatre  

Forman, Robin, 1987. Professor of Mathematics and Master of Jones College  

Fossati, Giovanni, 2001. Assistant Professor of Physics and Astronomy  
MS (1994) Universita degli Studi Milano; PhD (1998) International School for Advanced Studies, Italy

Foster, Kevin, 2001. Faculty Fellow in Ecology and Evolutionary Biology  
BA (1997) Cambridge University, UK; PhD (2000) University of Sheffield, UK

Foster, Thomas, 2004. Visiting Assistant Professor of History  

Fox, David Stephen, 1990. Adjunct Lecturer of Architecture  
BA (1973), BArch (1975) Rice University

Fox, Robert O., 2003. Adjunct Professor of Biochemistry and Cell Biology  
BS (1976) University of Pittsburgh; MPhil (1978), PhD (1981) Yale University

Franciosi, Michael, 2000. Assistant Teacher of Opera Studies  
BM (1982) West Virginia University; MM (1985) Manhattan School of Music

Frankowski, Ralph F., 1970. Adjunct Professor of Statistics  
BS (1957), MS (1959) DePaul University; MPH (1962), PhD (1967) University of Michigan

Frantz, J. Patrick, 2000. Lecturer on Electrical and Computer Engineering  

Fraser, Matthew P., 1998. Associate Professor in Civil and Environmental Engineering  

French, Christopher, 1999. Artist Teacher of Cello Orchestral Repertoire

BA (1998); MA (2000); PhD (2003) Brandeis University

Fukuyama, Tohru, 1995. Adjunct Professor in Chemistry  
BS (1971), MS (1973) Nagoya University; PhD (1977) Harvard University

Fultz, Lucille P., 1990. Associate Professor of English  
AB (1959) Spelman College, MA (1968) University of Iowa, PhD (1990) Emory University

Furr, James, 2003. Caudill Visiting Lecturer of Architecture  
BArch (1969) Louisiana State University

Gabbiani, Fabrizio, 2004. Adjunct Assistant Professor of Computational and Applied Mathematics  
MS (1989) Swiss Federal Institute of Technology, Switzerland; PhD (1992) Institute of Theoretical Physics, Switzerland

Gao, Zhiyong, 1986. Associate Professor of Mathematics  
BA (1979) Fudan University; PhD (1984) State University of New York at Stony Brook

Gaunt, Christa, 1998. Lecturer of German  
Mag phil (1985) University of Vienna, Austria; MA (1994), PhD (2000) University of Texas at Austin

Gaytan, 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, 1996. Lecturer in Kinesiology, and Resident Associate of Martel College  
BA (1990), MA (1993), PhD (1997) University of Texas at Austin

Gibson, Quentin H., 1996. Distinguished Faculty Fellow in Biochemistry and Cell Biology  
MB (1941), MD (1944), PhD (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 in Electrical and Computer Engineering

Gill, Jack M., 1998. Adjunct Professor in the Practice of Management
BS (1958) Lamar University; PhD (1962) Indiana University

Gillis, Malcolm, 1993. University Professor, Ervin Kenneth Zingler Professor of Economics, and Professor of Management
BA (1962), MA (1965) University of Florida; PhD (1968) University of Illinois

Glantz, Raymon M., 1969. Professor of Biochemistry and Cell Biology
BA (1963) Brooklyn College; MS (1964), PhD (1966) Syracuse University

Glass, Graham P., 1967. Professor of Chemistry
BS (1959) Birmingham University, England; PhD (1963) Cambridge University

Glowinski, Roland, 1986. Adjunct Professor of Computational and Applied Mathematics
PhD (1970) University of Paris

Goldman, Ronald N., 1990. Professor of Computer Science
BS (1968) Massachusetts Institute of Technology; MA, PhD (1973) Johns Hopkins University

Goldsmith, Kenneth, 1991. Professor of Violin
BMus (1966) George Peabody College for Teachers; MA (1968) Leland Stanford University

Gomer, Richard H., 1988. Professor of Biochemistry and Cell Biology
BA (1977) Pomona College; PhD (1983) California Institute of Technology

González-Stephan, Beatriz, 2001. Lee Hage Jamail Chair of Latin American Literatures in Hispanic Studies

Gordon, Richard G., 1995. W. M. Keck Professor of Earth Science and Associate of Lovett College
BA (1975) University of California at Santa Cruz; MS (1977), PhD (1979) Stanford University

Gorham, Becky, 2002. Adjunct Lecturer in Kinesiology
BS (1976), MS (1979) University of New Mexico

Gorman, Bridget K., 2002. Assistant Professor of Sociology and Resident Associate of Jones College

Gorry, G. Anthony, 1976. Friedkin Professor of Management and Professor of Computer Science
BE (1962) Yale University; MS (1963) University of California at Berkeley; PhD (1967) Massachusetts Institute of Technology

Gottschalk, Arthur W., 1977. Professor of Composition and Theory and Chair of Composition and Theory

Gouez, Jean-Joseph, 1990. Laurence H. Favrot Professor of French

Grace, Jeremy M., 2001. Lecturer of Humanitites

Graf, Hans, 2002. Artist in Residence

Grande-Allen, Kathryn Jane, 2003. Assistant Professor in Bioengineering
BA (1991) Transylvania University; PhD (1998) University of Washington

Grandy, Richard E., 1980. Carolyn and Fred McManis Professor of Philosophy
BA (1963) University of Pittsburgh; MA (1965), PhD (1968) Princeton University

Grant, Simon, 2002. Allyn R. and Gladys M. Cline Professor of Economics

Gray, David B., 2001. Lecturer in Religious Studies

Greig, Nancy, 1991. Adjunct Assistant Professor in Ecology and Evolutionary Biology
BA (1980), PhD (1991) University of Texas at Austin

Greiner, John, 1997. Lecturer on Computer Science

Grenader, Nonya S., 1995. Professor in the Practice of Architecture
BArch (1976) University of Texas; MArch (1994) Rice University
Gruber, Ira Dempsey, 1966. Harris Masterson, Jr., Professor of History
Grullon, Gustavo, 1998. Assistant Professor of Management
Guerra, Rudy, 2001. Professor of Statistics
Gustin, Michael C., 1988. Associate Professor of Biochemistry and Cell Biology
   AB (1974) Johns Hopkins University; PhD (1981) Yale 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
Hamm, Keith Edward, 1988. Professor of Political Science
   AB (1969) Franklin and Marshall College; MA (1972) Florida Atlantic University;
   PhD (1977) University of Wisconsin at Milwaukee
Hamadeh, Shirine T., 2003. Assistant Professor of Art History
Hampton, Lawrence P., 1999. Lecturer in the Practice of Management
   AB (1979) University of Chicago; JD (1985) Case Western Reserve University
Hannon, James P., 1967. Professor of Physics and Astronomy
   BA (1962), MA (1965), PhD (1967) Rice University
Hannan, John K., 1990. Adjunct Professor of Management.
   BA (1975) Rice University; JD (1988) South Texas College of Law
Haptonstall, Clark D., 2003. Assistant Professor of Kinesiology and Director of Sports Management
Haque, Moyeen, 1988. Lecturer on Civil and Environmental Engineering
   BS (1978) Aligarh Muslim University; MS (1982) University of Petroleum and Minerals;
   PhD (1988) University of Texas
Harcombe, Elnora, 1989. Associate Director of the Center for Education, Director of the Model Science Laboratory
   Project, Adjunct Lecturer on Education Certification
   BS (1967) University of Michigan; MPhil (1969), PhD (1975) Yale University
Harcombe, Paul A., 1972. Professor of Ecology and Evolutionary Biology
   BS (1967) Michigan State University; PhD (1973) Yale University
Hardt, Robert M., 1988. W. L. Moody Professor of Mathematics
   BS (1967) Massachusetts Institute of Technology; PhD (1971) Brown University
Harland, Peter W., 1989. Adjunct Professor of Chemistry
   BSc (1968) University of Wales, Aberystwyth; PhD (1971) Edinburg University; DSc (1993) Edinburg University
Harman, Thomas, 1988. Adjunct Professor in Electrical and Computer Engineering
   BSEE (1965) University of Maryland; PhD (1972) Rice University
Harrell, Lynn, 2002. Professor of Cello
   LHD (Hon.) (1994) Cleveland Institute of Music
Harris, Paul M. (Mitch), 2000. Adjunct Professor of Earth Science
   BS (1971), MS (1973) West Virginia University; PhD (1977) University of Miami
Harter, Deborah A., 1990. Associate Professor of French
   BA (1973) University of California at Los Angeles; MA (1980), PhD (1989) University of California at Berkeley
Hartgerink, Jeffrey D., 2002. Assistant Professor of Chemistry
Hartigan, Patrick M., 1994. Associate Professor of Physics and Astronomy
   BS (1981) University of Minnesota; PhD (1987) University of Arizona
Hartley, Craig, 1998. Adjunct Professor in Bioengineering
   BSEE (1966), PhD (1970) University of Washington at Seattle
Hartley, Peter Reginald, 1986. Professor of Economics
Haskell, Thomas L., 1970. Samuel G. McCann Professor of History
BA (1961) Princeton University; PhD (1973) Stanford University

Hassett, Brendan E., 2000. Associate Professor of Mathematics

Hauge, Robert H., 1967. Distinguished Faculty Fellow in Chemistry
BA (1960) Loras College; PhD (1965) University of California at Berkeley

Haverkamp, Eva A., 1999. Anna Smith Fine Assistant Professor of History and Associate of Brown College

Heard, Holly E., 2003. Assistant Professor of Sociology and Associate of Lovett College

Hebl, Michelle ("Mikki") R., 1998. Associate Professor of Psychology and Management

Heckelman, Elizabeth W., 1990. Lecturer on Education Certification

Heinenschloss, Matthias, 1996. Associate Professor of Computation and Applied Mathematics
BA (1988), PhD (1991) Universit Trier, Germany

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
BS (1950), MS (1958) University of Texas at Austin; PhD (1961) University of Michigan

Hemeyer, Terry, 1998. Adjunct Professor in the Practice of Management
BA (1960) Ohio State University; MA (1968) University of Denver

Hempel, John, 1964. Milton B. Porter Professor of Mathematics
BS (1957) University of Utah; MS (1959), PhD (1962) University of Wisconsin at Madison

Henry, Charles, 2001. Adjunct Professor of Computer Science

Henze, Matthias, 1997. Watt J. and Lily G. Jackson Chair in Biblical Studies and Associate Professor of Religious Studies
MDiv (1992) University of Heidelberg; PhD (1997) Harvard University

Hess, Kenneth, 2000. Adjunct Associate Professor of Statistics
BS (1982) Rice University; MS (1986), PhD (1992) University of Texas School of Public Health

Hester, Paul, 2003. Lecturer in Visual Arts
BA (1971) Rice University; M.FA (1976) Rhode Island School of Design

Hewitt, Janice, 1999. Instructor for the Cain Project
BA, MA University of Michigan; MA (1986), PhD (1997) Rice University

Heydorn, Richard P., 1998. Adjunct Professor of Statistics
B.E.E. (1958), MA (1964) University of Akron; PhD (1971) Ohio State University

Hight, Christopher, 2003. Assistant Professor of Architecture

Hill, Thomas W., 1979. Professor of Physics and Astronomy
BA (1967), MS (1971), PhD (1973) Rice University

Hirasaki, George J., 1989. A. J. Hartsook Professor in Chemical Engineering
BS (1965) Lamar University; PhD (1967) Rice University

Hirschi, Karen, 2001. Adjunct Assistant Professor of Bioengineering
BS (1984) Pennsylvania State University; PhD (1990) University of Arizona

Hirschi, Kendall, 2003. Adjunct Associate Professor of Biochemistry and Cell Biology

Hitchman, Theron J., 2004. VIGRE Lovett Instructor of Mathematics
BS (1997) The Ohio State University; PhD (2003) University of Michigan

Ho, Vivian, 2004. James A. Baker III Institute Chair in Health Economics and Associate Professor of Economics
Hobby, William P., 1989. Radoslav A. Tsanoff Professor of Public Affairs  
BA (1953) Rice Institute

Hokanson, David A., 2000. Adjunct Assistant Professor in Chemical Engineering  
BS (1977), MChE (1979) Rice University

Holland, J. Nathaniel, 2003. Assistant Professor of Ecology and Evolutionary Biology  
BS (1993) Ferrum College; MS (1995) University of Georgia; PhD (2001) University of Miami

Holloway, Clyde, 1977. Herbert S. Autrey Professor of Organ  
BMus (1957), MMus (1959) University of Oklahoma; SMD (1974) Union Theological Seminary

House, Waylon V., 1986. Adjunct Associate Professor of Chemical Engineering  

Howell, William C., 1992. Adjunct Professor of Psychology  
BA (1954), MA (1956), PhD (1958) University of Virginia

Huang, Huey W., 1973. Sam and Helen Worden Chair of Physics and Astronomy  
BS (1962) National Taiwan University; PhD (1967) Cornell University

Huberman, Brian Michael, 1975. Associate Professor of Visual Arts  
MFA Equivalent (1974) National Film School of Great Britain

Hudspheth, C. M., 1947. Lecturer on Political Science  
BA (1940) Rice Institute; JD (1946) University of Texas at Austin

Huffer, Lynne, 1998. Professor of French Studies  

Hughes, Joseph B., 1992. Adjunct Professor in Civil and Environmental Engineering  

Hughes, Thomas J.R., 2002. Adjunct Professor in Mechanical Engineering and Materials Science  

Hulet, Randall G., 1987. Fayez Sarofim Professor of Physics and Astronomy  
BS (1978) Stanford University; PhD (1984) Massachusetts Institute of Technology

Huston, J. Dennis, 1969. Professor of English  
BA (1961) Wesleyan University; MA (1964), PhD (1966) Yale University

Hutchinson, John S., 1983. Professor of Chemistry and Associate Vice President for Student Affairs, Master of Brown College  
BS (1977), PhD (1980) University of Texas at Austin

Hyde, E. McKay, 2004. Assistant Professor of Computational and Applied Mathematics  

Iammarino, Nicholas K., 1978. Professor of Kinesiology  
BS (1973) University of Dayton; MEd (1975) University of Toledo; PhD (1978) Ohio State University

Isle, Walter Whitfield, 1962. Vice Provost for Academic Affairs and Clarence L. Carter Distinguished Service Professor of English  
AB (1955) Harvard University; MA (1957) University of Michigan; PhD (1961) Stanford University

Jaber, Thomas L., 1988. Associate Professor of Music and Director of Choral Ensembles  

Jablecki, Lawrence, 2002. Lecturer in Humanities  
BA (1964) Southern Nazarene University; MA (1969) Vanderbilt University; PhD (1976) Manchester University

Jalbert, Pierre D., 1996. Associate Professor of Composition and Theory  

Jeanneret, Paul R., 2003. Adjunct Professor of Psychology  
BA (1962) University of Virginia; MA (1963) University of Florida; PhD (1969) Purdue University

Jenckes, Kate, 2003. Assistant Professor of Spanish  

Jenkins, Mark A., 2001. Adjunct Lecturer of Kinesiology  
BA (1983) Rice University; MD (1987) University of Texas

Jimenez, Carlos, 1997. Professor of Architecture  
March (1981) University of Houston

Johns-Krull, Christopher M., 2001. Assistant Professor of Physics and Astronomy  
BA, BS (1989) University of Texas at Austin; MA (1991), PhD (1994) University of California at Berkeley

Johnson, Bruce R., 1994. Distinguished Faculty Fellow in Chemistry and Executive Director of the Rice Quantum Institute  
BA (1975) University of Minnesota; PhD (1981) University of Wisconsin at Madison
Johnson, David B., 2000. Associate Professor of Computer Science and in Electrical and Computer Engineering
BA (1982), MS (1985), PhD (1990) Rice University

Johnson, Don Herrick, 1977. J.S. Abercrombie Professor in Electrical and Computer Engineering and Statistics

Johnsson, S. Lennart, 1995. Adjunct Professor in Computer Science

Jones, Jr., B. Frank, 1962. Noah Harding Professor of Mathematics
BA (1958) Rice Institute; PhD (1961) Rice University

Jones, Garry D., 2000. Adjunct Professor of Earth Science

Jones, Mark P., 2004. Associate Professor of Political Science
BA (1989) Tulane University; PhD (1994) University of Michigan

Jones, Thomas A., 2003. Adjunct Professor of Earth Science
BS (1964) MS (1967) Colorado State University; MS (1968); PhD (1969) Northwestern University

Joseph, Betty, 1995. Associate Professor of English

Kamins, Benjamin C., 1987. Professor of Bassoon

Kaminski, Vincent, 2001. Adjunct Associate Professor of Management
PhD (1975) Main School of Planning and Statistics; MBA (1978) Fordham University

Kanatas, George, 1994. Jesse H. Jones Professor of Management
BS (1966) City College of New York; PhD (1971) University of Kansas; PhD (1978) Johns Hopkins University

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
BM (1966) Indiana University; MM (1970) University of Texas

Kavraki, Lydia, 1996. Noah Harding Professor of Computer Science and Professor of Bioengineering

Kecht, Maria-Regina, 1997. Associate Professor of German
Teacher's Diploma (1978) Pushkin Institute, Moscow State University; MA (1979) University of Illinois at Urbana-Champaign; PhD (1982) Innsbruck University

Keeton, Darra, 1994. Associate Professor of Visual Arts
BEA (1974) Miami University, Ohio; MFA (1979) Queens College, New York

Kehoe, John, 2002. Lecturer of Management
BA (1960) Northwestern University; MA (1964) St. Louis University; DBA (1975) Harvard University

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
BA (1994) University of California, Santa Cruz; PhD (2000) Massachusetts Institute of Technology

Kennemer, 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. Senior Lecturer of Management
BA (1975), MS (1978), PhD (1983) Rice University

Khabashesku, Valery, 2002. Faculty Fellow in Chemistry
BSc and MSc (1973) Lomonosov Moscow State University; PhD (1980), DSc (1998) Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences
Khoury, Dirar, 1998. Adjunct Associate Professor in Electrical and Computer Engineering

Kiang, Ching-Hwa, 2002. Assistant Professor of Physics and Astronomy
BS (1987) National Taiwan University; PhD (1995) California Institute of Technology

Killian, Thomas C., 2000. Assistant Professor of Physics and Astronomy

BS (1997) Korea Advanced Institute of Science and Technology; PhD (2003) Indiana University

Kimmel, Marek, 1990. Professor of Statistics
MS (1977), PhD (1980) Silesian Technical University

King, Stephen, 2003. Professor of Voice

Kinsey, Berma, 2002. Lecturer in the Weiss School of Natural Sciences
BA (1957) Duke University; PhD (1962) University of California at Berkeley

Kinsey, James L., 1987. D. R. Bullard-Welch Foundation Professor of Science in the Department of Chemistry
BA (1956), PhD (1959) Rice Institute

Kirk, David E., 1982. Associate Professor of Tuba
BM (1982) Juilliard School of Music

Kirkpatrick, Nanda D., 2003. Clinical Assistant Professor in Biochemistry and Cell Biology

Klein, Anne C., 1989. Professor of Religious Studies
BA (1969) State University of New York at Binghamton; MA (1971) University of Wisconsin at Madison; PhD (1981) University of Virginia

Klineberg, Stephen L., 1972. Professor of Sociology and Associate of Lovett College

Kloeckner, Phillip, 2003. Lecturer in Music

Kloucek, Jordan, 2004. Adjunct Assistant Professor of Computational and Applied Mathematics
MS (1984), PhD (1990) Charles University, Prague

Knightly, Edward W., 1996. Associate Professor in Electrical and Computer Engineering and Computer Science
BS (1991) Auburn University; MS (1992), PhD (1996) University of California at Berkeley

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
BS (1963) Providence College; PhD (1968) University of Wisconsin

Kono, Junichiro, 2000. Assistant Professor in Electrical and Computer Engineering
BS (1990), MS (1992) University of Tokyo; PhD (1995) State University of New York, Buffalo


Kroll, Michael H., 1989. Adjunct Associate Professor in Bioengineering
BS (1977) State University of New York at Binghamton; MD (1981) Cornell University Medical College

Kulinski, Kristen, 2002. Faculty Fellow in Chemistry and CBEN Executive Director of Education and Policy
BS (1990) Canisius College; MS (1992), PhD (1995) University of Rochester

Kulstad, Mark, 1975. Professor of Philosophy
BA (1969) Macalester College; PhD (1975) University of Michigan

Kurtzman, Kenny, 2004. Lecturer in the Practice of Management
BA (1985) Rice University; MBA (1989) Stanford University

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
BA (1970), MA (1971), PhD (1975) University of Kentucky
Lally, Sean, 2002. Wortham Fellow in Architecture
BS (1996) University of Massachusetts at Amherst; MArch (2002) University of California at Los Angeles

Lamos, Colleen R., 1989. Associate Professor of English
BA (1978) State University of New York at Binghamton; PhD (1988) University of Pennsylvania

Landecker, Hannah, 2001. Assistant Professor of Anthropology
BS (1993) University of British Columbia; MA, PhD (2000) Massachusetts Institute of Technology

Landis, Chad M., 2000. Assistant Professor in Mechanical Engineering and Materials Science
BS (1994) University of Pennsylvania; MS (1997), PhD (1999) University of California at Santa Barbara

Lane, David M., 1976. Associate Professor of Psychology and Statistics
BA (1971) Clark University; MA (1973) Tufts University; PhD (1977) Tulane University

Lane, Mary Ellen, 2000. Assistant Professor of Biochemistry and Cell Biology

Lane, Neal F., 1996. University Professor and Professor of Physics and Astronomy
BS (1960), MS (1962), PhD (1964) University of Oklahoma

Lanier, Cynthia A., 2002. Lecturer in Kinesiology
BS (1985) University of Texas-Austin; MPH (1987), DrPhH (1995) University of Texas Health Science Center

Last, Nana, 1999. Assistant Professor of Architecture

Leeds, Brett Ashley, 2001. Associate Professor of Political Science
BA (1991), University of North Carolina–Chapel Hill; JD (1979) Harvard Law School

Leeman, William P., 1977. Professor of Earth Science and Emeritus Associate of Lovett College and Associate of Martel College

Lerup, Lars, 1993. Dean of the School of Architecture and William Ward Watkin Professor of Architecture
BArch (1968) University of California at Berkeley; M. Arch. (1970) Harvard University

Lesnick, Robert M., 2001. Adjunct Professor in Executive Education
BS (1975) Northern Arizona University; MBA (2000) Rice University

Levy, Eugene H., 2000. Associate Professor of Clarinet
BMus (1980) Curtis Institute of Music

Levander, Alan R., 1984. Carey Croneis Professor of Earth Science
BS (1976) University of South Carolina; MS (1978), PhD (1984) Stanford University

Levander, Caroline E., 2000. Associate Professor of English

Levy, Eugene H., 2000. Howard Hughes Provost and Professor of Physics and Astronomy
AB (1966) Rutgers University; PhD (1971) University of Chicago

Lewis, Steven W., 1996. Senior Lecturer of Asian Studies, Research Fellow at Baker Institute

Li, Hui, 2002. Adjunct Associate Professor of Physics and Astronomy
BS (1990) Beijing University; PhD (1995) Rice University

Lian, Andrew P., 2003. Professor of Humanities and Director of the Center for the Study of Languages
BA (1967) University of Sydney; Doctorat d’Université (1971) Paris IV - Sorbonne

Liang, Edison P., 1991. Andrew Hays Buchanan Professor of Astrophysics
BA (1967), PhD (1971) University of California at Berkeley
Liapis, Stergios, 1998. Lecturer on Civil and Environmental Engineering

Lichtenstein, Alex, 2002. Associate Professor of History and Associate of Wiess College

Liesbchner, Michael A. K., 2000. Assistant Professor in Bioengineering
MS (1995) Ruhr University, Germany; PhD (1998) University of Vermont

Lilleberg, Jorma, 2002. Adjunct Professor in Electrical and Computer Engineering
BS (1984) University of Oulu; PhD (1992) Tampere University of Technology

Linbeck, Leo, III, 2002. Adjunct Professor in the Practice of Management

Lindsay, Bernard G., 1991. Senior Faculty Fellow in Physics and Astronomy
BA (1984), PhD (1987) Queen’s University of Belfast

Llope, William J., 1994. Senior Faculty Fellow in Physics and Astronomy

Logan, Jill (Thad), 1982. Lecturer in English
BA (1973) University of California at Santa Barbara; PhD (1981) Rice University

Long, Elizabeth, 1978. Professor of Sociology and Associate of Baker College

Lopez, Jose A., 1999. Adjunct Professor in Bioengineering
BS (1977) New Mexico Institute of Mining and Technology; MD (1981) University of New Mexico

Loughridge, Dennis, 2001. Adjunct Professor of Management

Loveland, Katherine A., 1991. Adjunct Professor of Psychology
BA (1975) University of Virginia; PhD (1979) Cornell University

Luca, Sergiu, 1983. Dorothy Richard Starling Professor of Violin
Artists 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
BA (1969) State University of New York; MA (1972), PhD (1989) University of California at Berkeley

Luettge, Andreas, 1999. Associate Professor of Earth Science and Associate of Will Rice College

Lyandres, Evgeny, 2004. Assistant Professor of Management
BA (1996) Ben Gurion University; MS (1999) Tel Aviv University; MS (2002); PhD (2004) University of Rochester

Ma, Jianpeng, 2000. Associate Professor in Bioengineering
BS (1985) Fundan University P.R. China; PhD (1996) Boston University

Maas, Michael R., 1984. Professor of History and Director of Ancient Mediterranean Civilizations Program
BA (1973) Cornell University; MA (1975), PhD (1982) University of California at Berkeley

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

Malone, David, Adjunct Lecturer in Double Bass

Manca, Joseph, 1989. Professor of Art History

Mandel, James P., 1986. Lecturer on Management and Economics
BS (1967), M.BA (1969), PhD (1973) University of Illinois

Mantzaris, Nikolaos, 2001. Assistant Professor in Chemical Engineering and in Bioengineering
Diploma (1994), National Technical University of Athens, Greece; PhD (2000) University of Minnesota

Maranville, Steven, 2004. Visiting Associate Professor of Management
BA (1982) Brigham Young University; MBA (1986) Brigham Young University; PhD (1994) University of Utah
Marathi, Upendra, 2002. Adjunct Professor of Management
BS (1989), PhD 1994) Loyola University; MBA (2001) Rice University

Marco, Rex, 2002. Adjunct Assistant Professor in Bioengineering
BS (1987) University of California-Irvine; MD (1992) UCLA School of Medicine

Marcus, George E., 1975. Joseph D. Jamail Professor of Latin American Studies and Professor of Anthropology
BA (1968) Yale University; PhD (1976) Harvard University

Margolis, Eric, 1995. Associate Professor of Philosophy
BA (1990) University of Maryland; PhD (1995) Rutgers University

Marschall, Melissa J., 2003. Assistant Professor of Political Science.
BA (1990) Florida State University; MA (1993) Bogazici University; PhD (1998) SUNY at Stony Brook

Martin, Lanny W., 2004. Assistant Professor of Political Science
BA (1990), MA (1997), PhD (2000) University of Rochester

Martin, Randi C., 1982. Elma Schneider Professor of Psychology
BA (1971) University of Oregon; MS (1977), PhD (1979) Johns Hopkins University

Martin, William C., 1968. Harry and Hazel Chavanne Professor of Religion and Public Policy, and Professor of Sociology

Massey, Richard P., 1989. Adjunct Lecturer on Electrical and Computer Engineering
BA (1953), BS (1954) Rice Institute; MS (1962) Columbia University

Massoud, Yehia, 2003. Assistant Professor in Electrical and Computer Engineering
BS (1991), MS (1994) Cairo University; PhD (1999) Massachusetts Institute of Technology

Matsuda, Seiichi P. T., 1995. 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
BS (1966) University of Texas at Austin; PhD (1970) University of California at Berkeley

Matusow, Allen J., 1963. William Gaines Twyman Professor of History, Associate of Baker College, and Associate Director, James A. Baker III Institute for Public Policy
BA (1958) Ursinus College; MA (1959), PhD (1963) Harvard University

Matzakos, Andreas N., 2003. Adjunct Assistant Professor in Chemical Engineering
Diploma of Chemical Engineering (1987) National Technical University; PhD (1992) Rice University

Mawlawi, Osama R., 2002. Lecturer on Electrical and Computer Engineering

Mazzat, Matthew M., 2003. Assistant Professor of Naval Science
BS (1998) EE University of Arizona

BA (1983), MA (1987) Florida State University; PhD (1999) University of Texas at Austin

McCullough, Laurence, 2001. Adjunct Professor of Philosophy
AB (1969) Williams College; PhD (1975) The University of Texas at Austin

McEvilley, Thomas, 1969. Distinguished Lecturer of Art History
BA (1965) University of Cincinnati, MA (1965) University of Washington, PhD (1968) University of Cincinnati

McGill, Scott, 2001. Assistant Professor of Classics
BA (1990) Salve Regina College; PhD (2001) Yale University.

McHale, Mary E.R., 1997. Laboratory Coordinator, Lecturer in Chemistry
BS (1974), MS (1978) University of London; MS (1989) University of Reading; PhD (1997) University of North Texas

McIntire, Larry V., 1970. Research Professor of Bioengineering

McIntosh, Roderick J., 1980. Professor of Anthropology
BA (1973) Yale University; MLitt (1975), PhD (1979) Trinity College, University of Cambridge

McIntosh, Susan Keech, 1980. Professor of Anthropology
BA (1973) University of Pennsylvania; MA (1975) Girton College, Cambridge University; MA (1976), PhD (1979) University of California at Santa Barbara

McKeel, Geoff, 2003. Assistant Professor of Naval Science
BS (1996) Political Science United States Military Academy

McLellan, Rex B., 1964. Professor of Materials Science
BMet (1957) Sheffield University; PhD (1962) Leeds University
McNeil, Linda M., 1984. Professor of Education
    BA (1966) Texas Tech University; MA (1968) Baylor University; PhD (1977) University of Wisconsin at Madison

McNew, James A., 2000. Assistant Professor of Biochemistry and Cell Biology
    BS (1989) Texas A&M University; PhD (1994) University of Texas Southwestern Medical Center–Dallas

McPhail, Mort, 2003. Adjunct Associate Professor of Psychology
    BA (1972) Trinity University; MS (1975), PhD (1978) Colorado State University

McStravick, David, 1999. Lecturer on Mechanical Engineering and Materials Science
    BS (1965), MS (1969), PhD (1972) Rice University

McZeal, Cassandra Moore, 2002. Adjunct Assistant Professor of Computational and Applied Mathematics

Meade, Andrew J., 1989. Professor of Mechanical Engineering
    BS (1982) Rice University; MS (1984), PhD (1989) University of California at Berkeley

Meconi, Honey, 1987. Professor of Musicology and Music History

Meffert, Lisa M., 2000. Assistant Professor of Ecology and Evolutionary Biology
    BS (1982), PhD (1988) University of Houston

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
    MSc (1975) Attila Jozsef University, Hungary; PhD (1980) Attila Jozsef University and Central Research Institute for Physics, Hungarian Academy of Sciences

Merrill, Connie, 2002. Lecturer of Management
    BA (1977) North Carolina State University, Raleigh; PhD (1981) Rice University

Metzker, Michael L., 2001. Adjunct Assistant Professor of Chemistry
    BS (1984) University of California at Davis; PhD (1996) Baylor College of Medicine

Michie, Helena, 1990. Agnes Cullen Arnold Professor in Humanities and Professor of English
    BA (1979) Princeton University; PhD (1984) University of Pennsylvania

Mieszkowski, Peter, 1981. Allyn R. and Gladys M. Cline Professor of Economics and Finance
    BS (1957), MA (1959) McGill University; PhD (1965) Johns Hopkins University

Mitteilin, Hannu E., 1977. Professor of Physics and Astronomy

Mikos, Antonios G., 1991. John W. Cox Professor in Bioengineering and Chemical Engineering
    Diploma (1983) Aristotle University of Thessaloniki, Greece; MS (1985), PhD (1988) Purdue University

Miller, Clarence A., 1981. Louis Calder Professor in Chemical Engineering
    BA, BS (1961) Rice University; PhD (1969) University of Minnesota

Miller, Michael, 1995. Adjunct Associate Professor in Bioengineering
    BS (1978) University of Massachusetts, MD (1982) University of Massachusetts Medical School

    BA (1952) Baylor University; PhD (1966) University of Texas at Austin

Mittleman, Daniel, 1995. Associate Professor in Electrical and Computer Engineering
    BS (1988) Massachusetts Institute of Technology; MS (1990), PhD (1994) University of California at Berkeley

Mohanram, Kartik, 2003. Assistant Professor in Electrical and Computer Engineering

Montague, P. Read, 1993. Adjunct Associate Professor in Computer Science
    BS (1983) Auburn University; PhD (1988) University of Alabama at Birmingham

Moore, Pat, 1996. Adjunct Professor of Civil and Environmental Engineering
    BA (1952), BS (1953) Rice University

Morgan, Julia K., 1999. Assistant Professor of Earth Science and Associate of Hanszen College

Morgan, T. Clifton, 1987. Albert Thomas Professor of Political Science
    BA (1978) University of Oklahoma; MA (1980), PhD (1986) University of Texas at Austin

Morris, Wesley Abram, 1968. Professor of English
    BA (1961), MA (1963) University of Kentucky; PhD (1968) University of Iowa

Morrison, Donald Ray, 1988. Professor of Philosophy
Morton, Scott A., 2004. Adjunct Associate Professor of Computational and Applied Mathematics

Moulin, Hervé, 1999. George A. Peterkin Professor of Economics
Agregation de Mathematiques (1971) Paris, France; PhD (1975) University of Paris, France

Müller, Peter, 2001. Adjunct Professor in Statistics
MS (1985) University of Vienna; PhD (1991) Purdue University

Murphee, Dennis E., 1992. Lecturer on Management
BA (1969) Southern Methodist University; MBA (1971) University of Pennsylvania

Mutchler, Gordon S., 1968. Professor of Physics and Astronomy
BS (1960), PhD (1966) Massachusetts Institute of Technology

Naficy, Hamid, 1993. Nina J. Cullinan Professor of Art History
BA (1968) University of Southern California; MFA (1971), PhD (1990) University of California at Los Angeles

Nagarajaiah, Satish, 1999. Associate Professor in Civil and Environmental Engineering and in Mechanical Engineering and Material Science
BS (1980) Bangalore University, India; MS (1982) Indian Institute of Science, India; PhD (1990) State University of New York at Buffalo

Nakhlieh, Luay K., 2004. Assistant Professor of Computer Science

Napier, H. Albert, 1983. Professor of Management and Psychology
BA (1966), MBA (1968), PhD (1971) University of Texas at Austin

Narbona, Jose A., 1999. Lecturer of Spanish
BA (1995) University of Seville, Spain; MA (1999) Rice University

Natelson, Douglas, 2000. Assistant Professor of Physics and Astronomy and in Electrical and Computer Engineering

Neagley, Linda E., 1993. Associate Professor of Art History
BA (1971) Russell Sage College; MA (1976), PhD (1985) Indiana University

Neal, James R., 2003. Assistant Professor of Naval Science
BS (1999) Political Science United States Naval Academy

Nelson, Karen K., 2003. Associate Professor of Management
BS (1988) University of Colorado; PhD (1997) University of Michigan

Nelson-Campbell, Deborah, 1974. Professor of French
BA (1960) Wittenberg University; Certificat d’etudes Francaises, ler Degre (1961) University of Grenoble, France; MA (1964), PhD (1970) Ohio State University

Newell, Charles J., 1993. Adjunct Assistant Professor in Civil and Environmental Engineering

Newman, James H., 1985. Adjunct Professor of Physics and Astronomy

Ng, T.S. Eugene, 2003. Assistant Professor of Computer Science

Nguyen, Dung “Zung”, 1999. Lecturer on Computer Science
BS (1976) Texas Tech University; MA (1979), PhD (1981) University of California at Berkeley

Niezdzelski, Nancy A., 1999. Assistant Professor of Linguistics and Associate of Lovett College

Nikonowicz, Edward P., 1993. Associate Professor of Biochemistry and Cell Biology
BS (1985) St. Louis University; PhD (1990) Purdue University

Niu, Fenglín, 2002. Assistant Professor of Earth Science
BS (1988) University of Science and Technology of China; MS (1994), PhD (1997) University of Tokyo

Norcross, Alastair, 2002. Associate Professor of Philosophy
BA Classics (1983) Oxford University; MA (1990), PhD (1991) Syracuse University

Norcross, Diana, 2003. Lecturer on Education Certification

Nordlander, Peter, 1989. Professor of Physics and Astronomy and in Electrical and Computer Engineering
BA (1977) Swedish Cavalry Officers’ School; MS (1980), PhD (1985) Chalmers University of Technology, Gothenburg, Sweden
Novotny, Alma M., 2000. Lecturer of Biochemistry and Cell Biology  
BS (1968) Duke University; PhD (1972) Purdue University

Nowak, Robert, 1999. Adjunct Associate Professor in Electrical and Computer Engineering  
BS (1990), MS (1992), PhD (1995) University of Wisconsin-Madison

Oberholzer, Mark A., 1999. Lecturer in Architecture  
BS (1989) Villanova University; MArch (1994) Rice University

Oberlack, Uwe, 2001. William V. Vietti Assistant Professor of Space Physics  
Diploma (1993), PhD (1997) Technical University of Munich

Odhiambo, Atieno E. S., 1989. Professor of History  
BA (1970) Makerere University College; PhD (1973) University of Nairobi

Oliver, Douglas E., 1997. Professor in the Practice of Architecture  

Olofsson, Peter, 1996. Lecturer on Statistics  
BS (1989), PhD (1994) Gothenburg University, Sweden

Olson, John Steven, 1973. Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology  
BS (1968) University of Illinois; PhD (1972) Cornell University

O’Malley, Marcia E., 2001. Assistant Professor in Mechanical Engineering and Materials Science  
BS (1996) Purdue University; MS (1999), PhD (2001) Vanderbilt University

Orchard, Michael T., 2001. Professor in Electrical and Computer Engineering  

Ostdiek, Barbara, 1994. Associate Professor of Management  
BA (1986) University of Nebraska; PhD (1994) Duke University

Ostdiek, Donald, 1995. Lecturer in the School of Social Sciences, Director of Policy Studies, and Associate Director of Academic Advising  

Ostherr, Kirsten, 2002. Assistant Professor of English  

O’Sullivan, Elizabeth, 2001. Lecturer of Management  

Oubre, Carroll, 1999. Adjunct Professor of Civil & Environmental Engineering  
BS (1955) University of Southwestern Louisiana; MS (1956) Ohio State University; PhD (1966) Rice University

Overall, John E., 1983. Adjunct Professor of Psychology  
BS (1954) Trinity University; MA (1956), PhD (1958) University of Texas at Austin

Padley, B. Paul, 1996. Assistant Professor of Physics and Astronomy  
BS (1981) York University; MS (1984), PhD (1987) University of Toronto

Page, Paula, 1985. Associate Professor of Harp  
BMus (1969) Cleveland Institute of Music

Pai, Vijay S., 2000. Assistant Professor in Electrical and Computer Engineering and Computer Science  
BS (1994); MS (1997); PhD (2001) Rice University.

Papadopoulos, Phaedon P., 2001. Lecturer of Management  
BS (1970), MS (1972) Aristotle University; MS (1974), PhD (1979) University of Oklahoma

Papakonstantinou, Anne, 1993. Clinical Assistant Professor in Natural Science and Adjunct Lecturer on Education  

Park, Joon, 2002. Professor of Economics  
BS (1978) Seoul National University; PhD (1987) Yale University

Parke, Jr., Robert B., 1998. Adjunct Professor in the Practice of Management  
BS (1970) Spring Hill College; MD (1973) Baylor College of Medicine; MBA (1993) Rice University

Parker, Jon Kimura, 2000. Professor of Piano  
BMus, MMus (1981), DMA (1989) Juilliard School of Music

Parry, Ronald J., 1978. Professor of Chemistry and Biochemistry and Cell Biology  
BA (1964) Occidental College; PhD (1968) Brandeis University

Parsons, Spencer W., 1969. Associate Professor of Architecture  
BA (1953) University of Michigan; MArch (1963) Harvard University

Parsons, William B., 1993. Associate Professor of Religious Studies  
BA (1979) Brandeis University; MDiv (1982) Yale University; PhD (1993) University of Chicago
Pasquali, Matteo, 1999. Assistant Professor in Chemical Engineering
MS (1992) University of Bologna; PhD (1999) University of Minnesota

Patrick, Charles, 1998. Adjunct Associate Professor in Bioengineering
BSChE (1990) Louisiana State University; PhD (1994) Rice University

Patten, Robert L., 1969. Lynette S. Autrey Professor in Humanities
BA (1960) Swarthmore College; MA (1962), PhD (1965) Princeton University

Patterson, Peggy, 2003. Lecturer of Spanish

Paye, Bradley S., 2004. Assistant Professor of Management

Peaceman, Donald W., 1983. Adjunct Professor of Computational and Applied Mathematics
BChE (1947) College of the City of New York; ScD (1952) Massachusetts Institute of Technology

Pearson, Deborah A., 1991. Adjunct Associate Professor of Psychology
BA (1979) Wesleyan University; MA (1982), PhD (1986) Rice University

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
Licenciatura (1972) Universidad de Granada, Spain; MA (1974), PhD (1982) University of Iowa

Perkins, Andrew, 2003. Assistant Professor of Management

Peters, Elizabeth A., 1999. Lecturer on Management
BA (1994) University of Texas; MA (1996) Sarah Lawrence College

Phillips, George N., 2001. Adjunct Professor of Biochemistry and Cell Biology
BA (1974), PhD (1976) Rice University

Phillips, Scott, 2003. Assistant Professor of Sociology and Associate of Hansens College

Pinn, Anthony B., 2004. Agnes Cullen Arnold Professor of Humanities and Professor of Religious Studies

Pitts, Timothy, 1992. Associate Professor of Double Bass

Pogge, Joseph M., 2002. Lecturer in Kinesiology
BA (1979) University of Houston

Pomerantz, James R., 1988. Professor of Psychology and Director of the Neurosciences Program
BA (1968) University of Michigan; PhD (1974) Yale University

Pope, Albert H., 1986. Gus Sessions Wortham Professor of Architecture

Potts, Geoffrey E., 1998. Assistant Professor of Psychology

Poulos, Basilios N., 1975. Professor of Visual Arts
BEA (1965) Atlanta School of Art; MFA (1968) Tulane University

Pu, Han, 2003. Assistant Professor in Physics and Astronomy
BS (1992) University of Science and Technology of China; MS (1994), PhD (1999) University of Rochester

Purugganan, Mary M., 2000. Cain Project Instructor and Promotions Coordinator
BS (1990) Texas A&M University; PhD (1998) Rice University

Qian, Nanxiu, 1993. Associate Professor of Chinese Literature
MA (1982) Nanjing University; PhD (1994) Yale University

Queller, David C., 1989. Professor of Ecology and Evolutionary Biology
BA (1976) University of Illinois; MS (1979), PhD (1983) University of Michigan

Quenemoen, Caroline K., 2002. Assistant Professor of Art History

Quillen, Carol E., 1989. Associate Professor of History and Director of the Boniuk Center for the Study and Advancement of Religious Tolerance
Quiocho, Florante A., 1972. Adjunct Professor of Biochemistry and Cell Biology
BS (1959) Central Philippine University; MS (1961) Howard University; PhD (1966) Yale University

Rachleff, Larry, 1991. Professor of Conducting
BS (1977) University of Connecticut; MM (1979) University of Michigan

Radigan, Judy, 2002. Lecturer on Education
MFA (1985) University of Houston-Central; MEd (1997) University of St. Thomas; PhD (2002) University of Houston-Central

Raley, Rita, 2004. Lynnette S. Autry Visiting Professor of English

Raphael, Robert M., 2001. T.N. Law Assistant Professor in Bioengineering
BS (1989) University of Notre Dame; MS (1992), PhD (1996) University of Rochester

Rarick, Janet, 1992. Artist Teacher of Wind Ensembles
BM (1973) University of Southern California

Rasmusen, Nicholas, 2003. Adjunct Professor of Management
BS (1968), MBA (1974) Stanford University

BS (1997); MS (1998) University of Virginia; PhD (2004) University of Arizona

Rau, Carl, 1983. Professor of Physics and Astronomy
BS (1963), MS (1967), PhD (1970) Technical University, Munich

Ray, Michael B., 2000. Adjunct Professor of Computational and Applied Mathematics
BS (1976), MA (1978), PhD (1981) University of Texas at Arlington

Recknagel, Marsha, 1988. Writer in Residence
BA (1974) Louisiana State University; PhD (1988) Rice University

Reed, William, 2002. Assistant Professor of Political Science

Redl, Timothy A., 2004. Lecturer in Computational and Applied Mathematics

Reiff, Patricia H., 1992. Professor of Physics and Astronomy
BS (1971) Oklahoma State University; MS (1974), PhD (1975) Rice University

Reiser, Stanley J., 1983. Adjunct Professor of Religious Studies

Riedi, Rudolf H., 1999. Assistant Professor of Statistics and in Electrical and Computer Engineering
MEDuc (1980), MSc (1986), PhD (1993) ETH and ECE Zurich, Switzerland

Riese, W. C. Rusty, 1985. Adjunct Associate Professor of Earth Science
BS (1973) New Mexico Institute of Mining and Technology; MS (1977), PhD (1980) University of New Mexico

Riga, LaNelle, 1999. Lecturer of Italian
BA (1997) University of Houston

Rigdon, Trish, 2000. Director of Theatre and Lecturer of Theatre
BA (1987) University of Saint Thomas, MBA (2000) University of Houston

Riley, Wayne, 2003. Adjunct Professor of Management

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
BA (1993) University of California at Berkeley; PhD (1998) University of California at Davis

Robert, Marc A., 1984. Professor in Chemical Engineering

Roberts, Jr., Jabus B., 1975. Professor of Physics and Astronomy
BA (1965) Columbia University; PhD (1969) University of Pennsylvania

Robinson, Larry, 2002. Visiting Associate Professor of Management
BS (1964) General Motors Institute; MBA (1970) Wright State University; PhD (1977) Ohio State University
Roddy, Jr., Harry Louis, 2001. Lecturer of German
BSE (1989) Tulane University; MA (1993)

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
MS (1993) University of Nancy; PhD (1996) Institute National Polytechnique de Lorraine of Nancy

Rosenstrauch, Doreen, 2003. Adjunct Assistant Professor in Bioengineering
RN (1988) Humboldt University, Berlin; MD (1997) Otto von Guericke University, Sachsen-Anhalt, Germany

Rosner, Gary L., 2001. Adjunct Professor of Statistics
BA (1974) University of Buffalo; MS (1977) Rice University; PhD (1985) Harvard University

Ross, III, David, 1979. Adjunct Professor in the Practice of Management
BA (1962) Yale University; MBA (1970) Harvard University

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
BMus (1970) Loyola University; MMus (1978), DMA (1980) University of Texas at Austin

Rumbaut, Rolando E., 2001. Adjunct Assistant Professor of Bioengineering
MD (1988) Instituto Tecnológico y de Estudios Superiores de Monterrey; PhD (1998) University of Missouri

Sabharwal, Ashutosh, 2001. Faculty Fellow in Electrical and Computer Engineering

Saggau, Peter, 2000. Adjunct Associate Professor in Bioengineering
BS (1973) Technical College Ulm, Germany; MS (1977) Technical University, Munich, Germany; PhD (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
BArch (1971) Rice University

Sams, Clarence E., 1997. Adjunct Assistant Professor of Biochemistry and Cell Biology
BA (1975), PhD (1983) Rice University

San, Ka-Yiu, 1984. E. D. Butcher Professor in Bioengineering and Chemical Engineering
BS (1978) Rice University; PhD (1984) California Institute of Technology

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
AB (1954) Augustana College; PhD (1957) University of Southern California

Satterbak, Ann E., 2002. Lecturer on Bioengineering and Director of Laboratory Instruction
BA (1990) Rice University; PhD (1995) University of Illinois

Sato, Hiroko, 1989. Senior Lecturer of Japanese


Sawyer, Dale S., 1988. Professor of Earth Science and Associate of Will Rice College
BS (1976) Purdue University; PhD (1982) Massachusetts Institute of Technology
Schneider, David J., 1989. Professor of Psychology  
BA (1962) Wabash College; PhD (1966) Stanford University

Schuler, Douglas A., 1992. Associate Professor of Management  
BS (1985) University of California at Berkeley; PhD (1992) University of Minnesota

Scott, David W., 1979. Noah Harding Professor of Statistics  
BA (1972), MA, PhD (1976) Rice University

Scuseria, Gustavo E., 1989. Welch Professor of Chemistry  
BS (1979), PhD (1983) University of Buenos Aires

Sedlak, John M., 1990. Lecturer on Civil and Environmental Engineering  

Seed, Patricia, 1982. Professor of History  
BA (1971) Fordham University; MA (1975) University of Texas at Austin; PhD (1980) University of Wisconsin at Madison

Seetharaman, Seethu, 2004. Associate Professor of Management  

Segner, III, Edmund, 1996. Lecturer on Civil and Environmental Engineering  
BS Rice University; MA University of Houston


Sereno, Anne Bibiana, 2002. Adjunct Assistant Professor of Psychology  

Shah, Gautami, 2001. Senior Lecturer of Hindi  
BA (1985) University of Bombay; MS (1988) Purdue University

Shamoo, Yousef, 1998. Assistant Professor of Biochemistry and Cell Biology  

Shank, Jr., C. Dean, 1984. Artist Teacher of Piano and Piano Technology  
BMus (1968), MMus (1971) North Texas State University; DMA (1988) University of Texas at Austin

Shank, Jacqueline, 2002. Adjunct Professor in Bioengineering  
BS (1983) Iowa State University; PhD (1989) California Institute of Technology

Shapiro, Armand, 2000. Adjunct Professor in the Practice of Management  
BA (1963) Renesselaer Polytechnic Institute

Shea, Louisa, 2003. Assistant Professor of French Studies  

Sheafor, Stephen J., 2002. Adjunct Professor in Electrical and Computer Engineering  
BS (1972), M.E.E. (1972), Rice University; PhD (1974) University of Illinois; MBA (1979) Santa Clara University

Shehabuddin, Elora, 2001. Assistant Professor of Humanities and Political Science  

Sheikh, Tauqir, 2001. Lecturer on Civil and Environmental Engineering  
BS (1975) University of Engineering and Technology Pakistan; MS (1980), PhD (1987) University of Texas at Austin

Sheinman, Hanoch, 2004. Assistant Professor of Philosophy  

Shen, Chao-mei, 2000. Lecturer of Chinese  
BA (1986) National Tsing-hua University; MA (1989) National Taiwan University; PhD (1998) University of Texas at Austin

Shen, Yu, 2002. Adjunct Associate Professor of Statistics  

Sher, George, 1991. Herbert S. Autrey Professor of Philosophy  
BA (1964) Brandeis University; PhD (1972) Columbia University

Shibatani, Masayoshi, 2002. Deedee McMurtry Professor of Humanities, Professor of Linguistics  
BA (1970), PhD (1973) University of California at Berkeley

Shipp, Stephanie S., 2000. Adjunct Professor of Earth Science  

Shook, Joan E., 1998. Adjunct Professor in Practice of Management  
BA (1976) Brown University; MD (1981) University of Cincinnati College of Medicine; MBA (1986) University of Houston

Shouval, Harel, 2004. Adjunct Assistant Professor of Computational and Applied Mathematics  
BSc (1987) Tel Aviv University; MSc (1990) Weizmann Institute; PhD (1994) Brown University
FACULTY

Si, Qimiao, 1994. Professor of Physics and Astronomy
   BS (1986) University of Science and Technology of China; PhD (1991) University of Chicago

Sickles, Robin, 1985. Professor of Economics and Statistics
   BS (1972) Georgia Institute of Technology; PhD (1976) University of North Carolina

Siefert, Janet, 2002. Faculty Fellow in Statistics
   BS (1975) University of Central Arkansas; PhD (1997) University of Houston

Siemann, Evan, 1998. Associate Professor of Ecology and Evolutionary Biology
   AB (1989) Cornell University; PhD (1997) University of Minnesota

Sigrist, Markus W., 1994. Adjunct Professor in Electrical and Computer Engineering
   Diplom. (1972), PhD (1977) ETH University, Zurich, Switzerland

Simpson, Robert, 2002. Adjunct Lecturer of Church Music
   AB (1970) Brown University; SMM (1972) Union Theological Seminary

Sinclair, James B., 1978. Lecturer on Electrical and Computer Engineering and Associate Dean of Engineering
   BSEE (1973), MEE (1974), PhD (1979) Rice University

Singh, Siddhartha S., 2003. Assistant Professor of Management

Skinner, David, 2004. Lecturer in the Practice of Management
   BS (1987) Oklahoma State University; MBA (1992) Oklahoma City University

Skura, Meredith, 1978. Libby Shearn Moody Professor of English
   BA (1965) Swarthmore College; PhD (1971) Yale University

Smalley, Richard E., 1976. University Professor, Gene and Norman Hackerman Professor of Chemistry, and Professor of Physics
   BS (1965) University of Michigan; MA (1971), PhD (1973) Princeton University

Smyalig, Michael C., 1989. Adjunct Lecturer on Electrical and Computer Engineering
   BS (1972) University of Minnesota; MS (1975), PhD (1981) Rice University

Smith, Clifton Wayne, 1993. Adjunct Professor in Bioengineering
   BS (1965) Texas A&M University; MS (1966), MD (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
   BFA (1969) San Francisco Art Institute; MA (1972) Hunter College

Smith, Ian, 2000. Faculty Fellow in Physics and Astronomy

Smith, Ken A., 1975. Distinguished Faculty Fellow in Chemistry
   BA (1970), MS (1973), PhD (1976) Rice University

Smith, Richard J., 1973. George and Nancy Rupp Professor of Humanities and Professor of History
   BA (1966), MA (1968), PhD (1972) University of California at Davis

Smith, Jr., Roland B., 1996. Adjunct Professor on Education and Associate Provost

Smolen, Paul D., 2004. Adjunct Assistant Professor of Computational and Applied Mathematics
   BS (1984), University of California at Berkeley; PhD (1990) University of California at Davis

Sneider, Allison L., 2000. Assistant Professor of History and Associate of Will Rice College

Snow, Edward A., 1981. Professor of English
   BA (1964) Rice University; MA (1966) University of California at Riverside; PhD (1969) State University of New York at Buffalo

Soligo, Ronald, 1967. Professor of Economics
   BA (1958) University of British Columbia; PhD (1964) Yale University

Sorensen, Danny C., 1989. Noah Harding Professor of Computational and Applied Mathematics
   BS (1972) University of California at Davis; MA (1975), PhD (1977) University of California at San Diego

Sspanos, Pol D., 1984. Lewis B. Ryon Professor of Mechanical Engineering and Civil and Environmental Engineering
   Dip (1973) National Technical University, Greece; MS (1974), PhD (1976) California Institute of Technology

Sparagana, John, 1989. Associate Professor of Visual Arts

Spencer, James, 2003. VIGRE Lovett Instructor of Mathematics
   BS (1999) University of Missouri; MS (2000); PhD (2003) Boston University
Speziale, Marie, 2002. Professor of Trumpet and Chair of Brass  
BM (1964) College Conservatory of Music, University of Cincinnati

Spieler, Christof, 2001. Lecturer on Civil and Environmental Engineering  
BS (1997), MS (1999) Rice University

Spuler, Richard, 1992. Senior Lecturer of German and Resident Associate of Lovett College  

Stallmann, Kurt, 2002. Lynette S. Autrey Assistant Professor of Composition and Theory  

Stasney, C. Richard, 1999. Adjunct Professor of Music  
BA (1965) Yale University; MD (1969) Baylor College of Medicine

Stein, Keith, 2001. Adjunct Associate Professor of Mechanical Engineering and Materials Science  

Stein, Robert M., 1979. Dean of Social Sciences and Lena Gohlman Fox Professor of Political Science  
BA (1972) Ohio Wesleyan University; MA (1974), PhD (1977) University of Wisconsin at Milwaukee

Steiner, Uwe, 2001. Associate Professor of German  

Stepinski, Tomasz E., 1994. Adjunct Associate Professor of Physics and Astronomy  
MS (1979) Warsaw University; PhD (1986) University of Arizona

Stern, Michael, 1991. Professor of Biochemistry and Cell Biology  
BS (1978) Stanford University; PhD (1985) University of California at San Francisco

Stevenson, Paul M., 1984. Professor of Physics and Astronomy and Associate of Brown College  
BA (1976) Cambridge University; PhD (1979) Imperial College

Stevenson, Randolph T., 1997. Albert Thomas Associate Professor of Political Science  

Stewart, Charles R., 1969. Professor of Biochemistry and Cell Biology  
BS (1962) University of Wisconsin at Madison; PhD (1967) Stanford University

Stobaugh, Robert B., 2003. Adjunct Professor of Management  
BS Louisiana State University; DBA Harvard University

Stokes, Gale, 1968. Mary Gibbs Jones Professor of History  
BA (1954) Colgate University; MA (1965), PhD (1970) Indiana University

Stoll, Richard J., 1979. Professor of Political Science  
AB (1974) University of Rochester; PhD (1979) University of Michigan

BA, MA (1985) Washington University; PhD (1990) Harvard University

Strassmann, Diana, 2004. Professor of the Practice in Humanities  

Strassmann, Joan E., 1980. Professor and Chair of Ecology and Evolutionary Biology  
BA (1974) University of Michigan; PhD (1979) University of Texas at Austin

Stroup, John M., 1988. Harry and Hazel Chavanne Professor of Religious Studies  
AB (1968) Washington University; MDiv (1972) Concordia Seminary; MPhil (1975), PhD (1980) Yale University

Stuart, Laurence E., 2002. Adjunct Professor of Executive Education  

Subramanian, Devika, 1995. Professor of Computer Science and in Electrical and Computer Engineering  

BSc (1997) University of Texas; MS (2001); PhD (2003) Rice University

Sullendar, Barry, 2003. Lecturer of Political Science  
BS (1984) Virginia Polytechnic Institute and State University; PhD (1993) University of Oregon

Sumners, Carolyn, 1999. Adjunct Professor of Physics and Astronomy  
BA (1970) Vanderbilt University; MEd (1977), EdD (1979) University of Houston

Suriuga, Victoria, 2003. Lecturer of Italian  

Swint, John Michael, 1977. Adjunct Associate Professor of Economics  
BA (1968) California State University at Humboldt; MA, PhD (1972) Rice University
Symes, William W., 1984. Noah Harding Professor of Computational and Applied Mathematics  
BA (1971) University of California at Berkeley; PhD (1975) Harvard University

Taha, Walid, 2002. Assistant Professor of Computer Science  
BS (1993) Kuwait University; PhD (1999) Oregon Graduate Institute

Talwani, Manik, 1985. Schlumberger Professor of Advanced Studies and Research in Earth Science  
BSHons (1951), MSc (1953) Delhi University; PhD (1959) Columbia University; PhD (Honoris Causa) (1981) Oslo University

Tao, Yizhi Jane, 2002. Assistant Professor in Biochemistry and Cell Biology  
BS (1992) Peking University; PhD (1999) Purdue University

BA (1961), MA (1966), PhD (1967) University of California at Los Angeles

Tari, Gabor, 1997. Adjunct Assistant Professor of Earth Science  
BS (1984), MS (1987) Eotvos University, Budapest; PhD (1994) Rice University

Taylor, Julie M., 1981. Professor of Anthropology  
BA (1966) Harvard University; Diploma (1969), PhD (1973) Oxford University

Taylor, Ronald N., 1983. George R. Brown Professor of Business Policy and Professor of Psychology  
BA (1960) Westminster College; MA (1964) University of Nebraska; PhD (1970) University of Minnesota

Tezduyar, Tayfun E., 1998. James F Barbour Professor in Mechanical Engineering and Materials Science  
MS (1978), PhD (1982) California Institute of Technology

Thal, Sarah E., 1999. Assistant Professor of History and Associate of Jones College  

Thames, Jr., Howard D., 1975. Adjunct Professor of Statistics  
BA (1955), MA (1959) Rice University

Thompson, Ewa M., 1970. Professor of Slavic Studies  
BA (1963) University of Warsaw; MFA (1963) Sopot Conservatory of Music, Poland; PhD (1967) Vanderbilt University

Thompson, James R., 1970. Noah Harding Professor of Statistics  
BEng (1960) Vanderbilt University; MA (1965), PhD (1965) Princeton University

BS (1964) Loyola University, New Orleans; MS (1966), PhD (1968) University of Wisconsin, Madison

Tittel, Frank K., 1967. J. S. Abercrombie Professor in Electrical and Computer Engineering  
BA (1955), MA (1959) Oxford University

Tobin, Mary L., 1979. Lecturer on English  
BA (1963) Carleton College; MA (1966) Columbia University; PhD (1973) Rice University

Toffoletto, Frank R., 1996. Assistant Professor of Physics and Astronomy  
BS (1981) La Trobe University; PhD (1987) Rice University

Tomson, Mason B., 1977. Professor in Civil and Environmental Engineering  
BS (1967) Southwestern State College; PhD (1972) Oklahoma State University

Tour, James M., 1999. Chao Professor of Chemistry, Professor of Mechanical Engineering and Materials Science and Professor of Computer Science  
BS (1981) Syracuse University; PhD (1986) Purdue University

Tran, Thanh T., 2004. Adjunct Lecturer on Electrical and Computer Engineering  

Trosset, Michael, 1992. Adjunct Associate Professor in Computational and Applied Mathematics  
BA (1978) Rice University; PhD (1993) University of California at Berkeley

Tyler, Stephen A., 1970. Herbert S. Autrey Professor of Anthropology and Linguistics  
BA (1957) Simpson College; MA (1962), PhD (1964) Stanford University

Udden, Mark M., 1983. Adjunct Associate Professor in Bioengineering  
SB, MA (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  
BA (1968), M.BA (1970), PhD (1973) University of Texas at Austin


Underwood, Shane E., 2004. Assistant Professor of Management  
Vaillancourt Roseneau, Pauline, 1995. Adjunct Associate Professor in Social Sciences
PhD (1972) University of California at Berkeley

Van Delden, Maarten, 1997. Associate Professor of Spanish

Vandenberg, Kristy, 1987. Lecturer of Kinesiology
BS University of Michigan

Van Wagoner, John, 1997. Adjunct Professor of Earth Science
BA (1972) College of Wooster; MA (1976), PhD (1977) Rice University

Varadhachary, Atul, 2003. Adjunct Professor of Management
MD University of Bombay; PhD (1992) Johns Hopkins University School of Medicine

Vardi, Moshe, 1993. Karen Ostrum George Professor in Computational Engineering and Professor of Computer Science
BS (1975) Bar-Ilan University; MS (1980) Feinberg Graduate School of the Weizmann Institute of Science; PhD (1982) Hebrew University

Varman, Peter J., 1983. Associate Professor in Electrical and Computer Engineering and Computer Science
BTech (1978) Indian Institute of Technology, Kanpur; MSEE (1980), PhD (1983) University of Texas at Austin

Veech, William A., 1969. Edgar Odell Lovett Chair in Mathematics
AB (1960) Dartmouth College; PhD (1963) Princeton University

Veletsos, Anestis S., 1964. Brown & Root Professor in Civil and Environmental Engineering
BS (1948) Robert College, Turkey; MS (1950), PhD (1953) University of Illinois

Verm, Jane L., 1989. Senior Lecturer of Spanish
BA (1967) University of Texas; MA (1989) Rice University

Ver Meulen, William, 1990. Professor of French Horn

Viebig, Jr., V. Richard, 1969. Lecturer on Accounting
BA (1962), Macc (1977) Rice University

Vieux, Baxter, 2003. Adjunct Professor of Civil and Environmental Engineering

Visser, Pieter A., 1979. Adjunct Lecturer on Music

Volz, Tracy, 1999. Instructor for the Cain Project
BA (1989) University of Iowa; MA (1998); PhD (1999) Rice University

Wagner, Daniel S., 2003. Assistant Professor of Biochemistry and Cell Biology
BA (1990) University of Texas; PhD (1997) University of Texas Health Science Center

Wagner, Stuart W., 1998. Lecturer on Management
BS (1994) University of Houston; MBA (1998) Rice University

Wallace, James R., 2001. Executive Officer and Associate Professor of Naval Science
AB (1975) University of Northern Colorado; MS (1985) University of Southern California

Wallace, Kristine Gilmartin, 1966. Lecturer in Classics
BA (1963) Bryn Mawr College; MA (1965), PhD (1967) Stanford University

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
BA (1953) Rice Institute; PhD (1956) Duke University

Wamble, Mark S., 1991. Visiting Callinan Professor of Architecture

Wang, Fu-Kuo Albert, 1998. Assistant Professor of Management
BA (1982) National Taiwan University; MBA (1989), PhD (1994) University of North Carolina

Warburton, Tim, 2004. Assistant Professor of Computational and Applied Mathematics

Ward, Calvin H., 1966. Foyt Family Professor in Civil and Environmental Engineering and Professor of Ecology and Evolutionary Biology
BS (1955) New Mexico State University; MS (1958), PhD (1960) Cornell University; MPH (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
  BA (1972), MA (1974), PhD (1976) Rice University

Watanabe, Masahiro, 2003. Assistant Professor of Management

Waters, David L., 1976. Associate Professor of Trombone
  BME (1962) University of Houston; MMus (1964) University of Texas at Austin

Watkins, Michael J., 1980. Professor of Psychology
  BSc (1965, 1969), PhD (1972) University of London

Watson, Larry J., 2003. Professor of Naval Science

Webster, Michael, 1997. Associate Professor of Clarinet and Ensembles
  BM (1966), MM (1967), DMA (1975) Eastman School of Music

Weigelt, Carmen B., 2003. Assistant Professor of Management

Weisman, R. Bruce, 1979. Professor of Chemistry
  BA (1971) Johns Hopkins University; PhD (1977) University of Chicago

Weissenberger, Klaus H. M., 1971. Professor of German,
  MA (1965) University of Hamburg, Germany; PhD (1967) University of Southern California

Wellington, Gerard M. 2002. Adjunct Professor of Earth Science
  BA (1971) San Jose State University; PhD (1981) University of California at Santa Barbara

Wellner, Julia Smith, 2001. Lecturer of Earth Science

Wellner, Robert W., 2002. Adjunct Assistant Professor of Earth Science

West, Jennifer L., 1996. Isabel C. Cameron Professor of Bioengineering and Professor in Chemical Engineering
  BS (1992) Massachusetts Institute of Technology; MS (1994), PhD (1996) University of Texas at Austin

Westbrook, Robert A., 1989. William Alexander Kirkland Professor of Management
  AB (1969), MBA (1971), PhD (1975) University of Michigan

Westheimer, Alan D., 1983. Lecturer on Management
  BSE (1965) University of Pennsylvania; MBA (1966) University of California at Berkeley

Weston, James P., 2000. Assistant Professor of Management

Westphal, Sarah, 2003. Associate Professor of German
  BA (1972) Oberlin College; MA (1976), PhD (1983) Yale University

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
  BA (1953) Rice University; MS (1958), PhD (1961) University of Wisconsin at Madison

White, Carolynne, 1988. Lecturer on Education Certification
  BS (1964) Springfield College; MEd (1998) University of Houston

White, Frank S., 1982. Lecturer on Architecture
  BS (1977) Rochester Institute of Technology

White, Robert A., 1981. Adjunct Professor of Statistics
  BA (1966) New Mexico State University; PhD (1970) University of Chicago

Whitmire, Kenton H., 1982. Professor of Chemistry

Whitmore, Mihriban, 1999. Adjunct Assistant Professor of Psychology
Whitney, Stephen E., 2003. Adjunct Professor of Management
BS (1975) Rice University; MA (1976) Union Theological Seminary; MD (1979) Baylor College of Medicine; MBA (2000) University of Houston

Whitson, Peggy, 1997. Adjunct Assistant Professor of Biochemistry and Cell Biology
BS (1981) Iowa Wesleyan College; PhD (1986) Rice University

Wickramasekara, Sujeev, 2004. Wiess Instructor of Physics and Astronomy
BS (1993) University of Southern California; PhD (1999) University of Texas

Widener, Sally K., 2001. Assistant Professor of Management

Wiener, Martin J., 1967. Mary Gibbs Jones Professor of History
BA (1962) Brandeis University; MA (1963), PhD (1967) Harvard University

Wiesner, Mark R., 1988. Professor of Civil and Environmental Engineering and Chemical Engineering, Director of Environmental and Energy Systems Institute
BA (1978) Coe College; MS (1980) University of Iowa; PhD (1985) Johns Hopkins University

Wihl, Gary S., 2003. Dean of the School of Humanities, Frances Moody Newman Professor in Humanities and Professor of English
BA (1976), MA (1978) McGill University; PhD (1983) Yale University

Wildenthal, Lora, 2003. Associate Professor of History and Associate of Will Rice College

Wiley, Gale E., 2002. Lecturer of Management Communications
BS (1963), MS (1969) University of Illinois

Wilkinson, Anne Victoria, 2002. Adjunct Instructor of Psychology
BS (1988) London School of Economics; PhD (1996) University of Texas at Austin

Willcott, M. Robert, 1995. Adjunct Professor of Chemistry
BA (1955) Rice University; MS (1959), PhD (1963) Yale University

Williams, Edward E., 1978. Henry Gardner Symonds Professor of Management and Professor of Statistics
BS (1966) University of Pennsylvania; PhD (1968) University of Texas at Austin

Williams, William, 1998. Professor in the Practice of Architecture

Wilson, James L., 1966. Adjunct Professor of Earth Science
BA (1942), MS (1944) University of Texas at Austin; PhD (1949) Yale University

Wilson, Lon J., 1973. Professor of Chemistry
BA (1966) Iowa State University; PhD (1971) University of Washington at Seattle

Wilson, Rick K., 1983. Herbert S. Autrey Professor of Political Science and Professor of Statistics and of Psychology
BA (1975), MA (1977) Creighton University; PhD (1982) Indiana University

Wilson, Jr., William L., 1972. Professor in Electrical and Computer Engineering and Associate of Wiess College
BS (1965), MS (1966), PhD (1972) Cornell University

Windsor, Duane, 1977. Lynette S. Autrey Professor of Management
BA (1969) Rice University; AM (1973), PhD (1978) Harvard University

Winkler, Kathleen, 1992. Professor of Violin
BMus (1972) Indiana University; MMus (1974) University of Michigan

Winningham, Geoffrey L., 1969. Professor of Visual Arts and Honorary Associate of Wiess College
BA (1965) Rice University; MS (1968) Illinois Institute of Technology

Winningham, J. David, 1970. Adjunct Professor of Physics and Astronomy
BS (1963), MS (1965), PhD (1970) Texas A&M University

Wise, J. D., 1995. Lecturer on Electrical and Computer Engineering

Wittenberg, Jr., Gordon G., 1979. Professor of Architecture
BFA (1968) Trinity College, Connecticut; MArch (1972) Washington University

Wittung-Stafshede, Pernilla, 2004. Associate Professor of Biochemistry and Cell Biology
BS and MSc (1992); PhD (1996) Chalmers University

Wolf, Michael, 1988. Professor of Mathematics
BS (1981) Yale University; PhD (1986) Stanford University

Wolfe, Cary E., 2003. Bruce and Elizabeth Dunlevie Professor of English
Wolfe, Joel W., 1997. Associate Professor of History and Master of Will Rice College
BS (1982) Georgetown University; MA (1984) University of New Mexico; 
PhD (1990) University of Wisconsin at Madison

Wong, Mark E. K., 2001. Adjunct Associate Professor of Bioengineering and Chemistry
BS (1974) Raffles Institution; BDS (1978) University of Singapore

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
BA (1968) East Texas State University; MA (1970) University of Texas at Arlington

Wooten, Kevin C., 1994. Adjunct Associate Professor of Psychology
BA (1976), MA (1978) University of Houston; PhD (1991) Tulane University

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; MS (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
MS (1978) Novosibirsk State University; PhD (1982) Russian Academy of Sciences

Yasko, Alan, 1996. Adjunct Associate Professor in Bioengineering
BS (1980) Wright State University; MD (1984) Northwestern University Medical School

Yaszemski, Michael, 1995. Adjunct Associate Professor in Bioengineering
BS (1977), MS (1978) Lehigh University; MD (1983) Georgetown University School of Medicine; PhD (1995) Massachusetts Institute of Technology

Yekovich, Robert A., 2003. Dean of the Shepherd School of Music and Elma Schneider Professor of Music

Yeh, Meng, 2001. Lecturer of Chinese
BA (1986) Tamkang University; MA (1988), PhD (1993) University of Texas at Austin

Yepes, Pablo P., 1994. Senior Faculty Fellow in Physics and Astronomy
BS (1982), MS (1983), PhD (1988) University of Santiago de Compostela

Yoon, Yeosun, 2003. Assistant Professor of Management

Young, James F., 1990. Professor of Electrical and Computer Engineering
BS (1965), MS (1966) Massachusetts Institute of Technology; PhD (1970) Stanford University

Yunis, Harvey E., 1987. Professor of Classics

Zambosco-Thomas, Elsa, 1986. Lecturer of Spanish

Zammuto, John H., 1994. John Antony Weir Professor of History and Professor of German and Slavic Studies and Associate of Hanszen College
BA (1970) University of Texas at Austin; PhD (1978) University of California at Berkeley

Zeff, Stephen A., 1978. Herbert S. Autrey Professor of Accounting
BS (1955), MS (1957) University of Colorado; MBA (1960), PhD (1962) University of Michigan; Dr. Econ. (Hon.) (1990) Turku School of Economics and Business Administration, Finland
Zelt, Colin A., 1995. Associate Professor of Earth Science
   BS (1984) University of Victoria; PhD (1989) University of British Columbia

Zhang, Yan Anthea, 2001. Assistant Professor of Management
   BA (1992), MA (1995) Nanjing University; MA (1997) City University of Hong Kong; PhD (2001) University of Southern California

Zhang, Yin, 1996. Professor of Computational and Applied Mathematics
   BS (1977), MS (1981) Chongqing Institute of Architecture and Engineering, China; PhD (1987) State University of New York at Stony Brook

Zhou, Jing, 2003. Associate Professor of Management

Zhu, Rui, 2003. Assistant Professor of Management
   BA (1997) University of International Business and Economics; PhD (2003) Carlson School of Management, University of Minnesota

Ziemer, Heidi E., 1998. Adjunct Assistant Professor in Psychology

Zimmerman, Stuart, 1971. Adjunct Professor of Statistics
   BA (1955), PhD (1961) University of Chicago

Zodrow, George, 1979. Professor of Economics

Zuckert, Rachel, 2001. Assistant Professor of Philosophy

Zygourakis, Kyriacos, 1980. A.J. Hartsook Professor in Chemical Engineering and Professor in Bioengineering
   DipChEng (1975) National Technical University of Athens; PhD (1981) University of Minnesota