RICE UNIVERSITY

GENERAL ANNOUNCEMENTS

2008–2009
NOTE: This catalog represents the most accurate information available at the time of publication. The university reserves the right, in its sole discretion, to correct or otherwise change any information without notice. The information contained in this publication is not intended to, and does not, confer any contractual rights on any individual. With respect to course offerings, the departments have attempted to anticipate which courses will be offered and by whom and when such courses will be taught. However, course offerings may be affected by changes in faculty, student demand, and funding. Although efforts have been made to indicate these uncertainties, course offerings are subject to change without notice.

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Please address all correspondence to the appropriate office or department followed by the university mailing address given above.

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Business Matters Office of the Cashier–MS 55
110 Allen Center, 713-348-4946

Career Services, Part-time Employment off Campus Career Services Center–MS 521
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116 Allen Center, 713-348-4999

Financial Aid, Scholarships, Part-time Employment on Campus Office of Financial Aid–MS 12
116 Allen Center, 713-348-4958

Graduate Studies Chair of the appropriate department (see pages 59–63)
or Office of Graduate and Postdoctoral Studies–MS 13

Undergraduates and Undergraduate Curricula Office of the Dean of Undergraduates–MS 6
101 Lovett Hall, 713-348-4996

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Rice University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (1866 Southern Lane, Decatur, GA 30033-4097; 404-679-4501) to award bachelor's, master's, and doctoral degrees.
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Academic Calendar 2008–2009

Fall 2008

Friday, August 1 ......................... Deadline: Tuition due for entering freshmen
Sunday, August 10 ...................... Deadline: Tuition due for returning undergraduate students

Sunday, August 17
(through Friday, August 22) .......... Orientation Week for new students
Friday, August 22 ......................... Deadline: Tuition due for graduate students
Monday, August 25 ...................... First day of classes
Credit balance checks available to students

Monday, September 1 ................... Labor Day (holiday—no classes)
Friday, September 5 ...................... Deadline: Last day to add courses online without a fee
Deadline: Last day to add a course without obtaining instructor’s permission
Deadline: Last day to adjust variable credit for courses online
Deadline: Last day to convert a “Pass/Fail” to an earned letter grade for courses taken in spring 2008
Deadline: Last day to withdraw with a 100% refund of tuition and fees
Deadline: Last day to drop to part time with a refund for tuition

Monday, September 8 ................... Late Registration: If you have not registered for any classes, you are charged a Late Registration Fee to add classes

Friday, September 12 ................... Deadline: Last day to withdraw with a 70% refund of tuition

Friday, September 19 ................... Deadline: Last day to complete late registration or add courses
Deadline: Last day to adjust variable credit for courses
Deadline: Last day to drop courses without a fee
Deadline: Last day to designate a course as “Audit” or vice versa
Deadline: Last day anticipated aid for fall shows as a credit on student accounts
Deadline: Last day to withdraw with a 60% refund of tuition

Friday, September 26 ................... Deadline: Last day for instructors to submit final grades to clear “Incompletes” for courses taken in spring and summer 2008
Deadline: Last day to withdraw with a 50% refund of tuition

Friday, October 3 ......................... Deadline: Last day to withdraw with a 40% refund of tuition
Friday, October 10 ........................................... Deadline: Mid-semester grades for first-year undergraduate students via the online grade submission process (in ESTHER) by 5:00 p.m.
Deadline: College course plans due to Dean of Undergraduates office for spring 2009
Deadline: Last day to withdraw with a 30% refund of tuition

Monday, October 13
(through Tuesday, October 14) ................. Midterm Recess

Friday, October 17 .......................................... Deadline: Last day to withdraw with a 20% refund of tuition

Friday, October 24 ......................................... Deadline: Last day to withdraw with a 10% refund of tuition

Friday, October 31 ......................................... Deadline: Last day to file an application for January 2009 degree conferral with the Office of the Registrar (undergraduate and graduate students)
Deadline: Last day to file an application for a May 2009 degree conferral with the Office of the Registrar (undergraduate students only)
Deadline: Last day to file the following in the Office of Graduate and Postdoctoral Studies for January 2009 degree conferral:
• Thesis master’s candidacy petitions
• Certification of nonthesis master’s
• Form for automatic master’s
• PhD candidacy petitions
Deadline: Last day to drop courses for all graduate students and “returning” undergraduate students with a fee
Deadline: Last day to designate a course as “Pass/Fail”

Monday, November 10
(through Friday, November 14) ................. Spring 2009 registration begins for currently enrolled undergraduate, graduate, and 5th year students

Wednesday, November 12 ............................. Deadline: Last day to complete financial aid application for fall 2009

Friday, November 14 ................................. Deadline: Last day to register for spring 2009 by 5:00 p.m. without late registration fee

Wednesday, November 26 ............................. Deadline: Last day to complete loan applications for fall 2008

Thursday, November 27
(through Friday, November 28) ............... Thanksgiving Recess (holiday–no classes)

Friday, December 5 ................................. Last day of classes
Deadline: (for fall 2008 matriculants only) Last day to drop courses—students must go to the Office of the Registrar by 5:00 p.m.
Deadline: For a January 2009 conferral of degree, students must submit theses to the Office of Graduate and Postdoctoral Studies by 12:00 noon.
Saturday, December 6
(through Tuesday, December 9) Study Days—No Exams
Wednesday, December 10
(through Wednesday, December 17) All undergraduate students: Scheduled exams and take-home exams for undergraduate courses.

Friday, December 26 Deadline: Last day to submit final grades via the online grade submission process (ESTHER) 12:00 NOON

Spring 2009
Friday, January 2 Deadline: Tuition due for all students
Monday, January 5 First day of classes

Credit balance checks available to students

Friday, January 9 Deadline: Last day to resolve grades of “Other” from fall 2008 by 5:00 p.m.

Friday, January 16 Deadline: Last day to add courses online without a fee

Deadline: Last day to add a course without obtaining instructor’s permission

Deadline: Last day for students to convert a “Pass/Fail” to an earned letter grade for courses taken in fall 2008

Deadline: Last day to withdraw with a 100% refund of tuition and fees

Deadline: Last day to drop to part time status with a 100% refund of tuition

Monday, January 19 Martin Luther King Jr. Day (holiday–no classes)

Tuesday, January 20 Late Registration: If you have not registered for any classes, you are charged a Late Registration Fee to add classes

Friday, January 23 Deadline: Last day to withdraw with a 70% refund of tuition

Friday, January 30 Deadline: Last day to complete late registration or add course(s)

Deadline: Last day to adjust variable credit for courses

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 with a 60% refund of tuition

Deadline: Last day anticipated aid for spring shows as credit on student accounts

Deadline: Last day to file the following in the Office of Graduate and Postdoctoral Studies for a May 2009 conferral of degree:

• Thesis master’s candidacy petitions
• Certification for nonthesis master’s
• Form for automatic master’s
• PhD candidacy petitions
Friday, February 6                      Deadline: Last day for instructors to submit final grades to clear “Incompletes” for courses taken in fall 2008
                                                Deadline: Last day to withdraw with a 50% refund of tuition

Wednesday, February 11                  Financial aid application materials available to returning students to apply for need-based aid for 2009–10

Friday, February 13                     Deadline: Last day to withdraw with a 40% refund of tuition

Friday, February 20                     Deadline: Mid-semester grades for first-year undergraduate students via the online grade submission process (ESTHER) by 5:00 p.m.
                                                Deadline: College course plans are due to the Dean of Undergraduates office for fall 2009
                                                Deadline: Last day to withdraw with a 30% refund of tuition

Friday, February 27                     Deadline: Last day to withdraw with a 20% refund of tuition
                                                Deadline: Last day to file an application for a May 2009 degree conferral with the Office of the Registrar (graduate students only)

Saturday, February 28 (through Sunday, March 8)          Midterm Recess (no classes)

Friday, March 13                        Deadline: Last day to withdraw with a 10% refund of tuition
                                                Deadline: Sophomores must file a Declaration of Major form with the Office of the Registrar

Friday, March 20                        Deadline: Last day to drop course(s) for all graduate students and “returning” undergraduate students with a fee
                                                Deadline: Last day to designate a course as “Pass/Fail”
                                                Deadline: Last day to complete financial aid applications for spring 2009

Thursday, April 2
(through Friday, April 3)              Spring Recess (no classes)

Monday, April 6
(through Friday, April 10)             Fall 2009 registration begins for currently enrolled undergraduate, graduate, and 5th year students

Friday, April 10                       Deadline: Last day to complete loan applications for spring 2009
                                                Deadline: Last day to register for fall 2009 without a late registration fee

Wednesday, April 15                    Deadline: Last day for returning students to submit financial aid applications for 2009–10
Friday, April 17 ............................................ Last day of classes

Deadline: For spring 2009 undergraduate matriculants only: Last day to drop courses, students must go to the Office of the Registrar by 5:00 p.m.

Deadline: For a May 2009 conferral of degree, students must submit theses to the Office of Graduate and Postdoctoral Studies by 12:00 NOON

Saturday, April 18
(through Tuesday, April 21) ................. Study Days—No Exams

Wednesday, April 22
(through Wednesday, April 29) .............. All undergraduate students: Scheduled exams and take-home exams for undergraduate courses

Friday, May 1 ............................................. Deadline: Last day to submit final grades for all degree candidates via the online grade submission process (ESTHER) by 5:00 p.m.

Monday, May 4 ......................................... Deadline: Last day for May 2009 degree candidates to convert a “pass/fail” to an earned letter grade for spring 2009 courses, by 12:00 NOON

Saturday, May 9 ........................................ Ninety-Sixth Commencement

Wednesday, May 13 ................................... Deadline: Last day to submit final grades for all nongraduating students via the online grade submission process (ESTHER) by 5:00 p.m.

Friday, May 15 .......................................... Deadline: Last day for graduate students to submit financial aid applications for 2009–10

Friday, May 29 .......................................... Deadline: Last day to resolve grades of “Other” from spring 2009

Summer 2009

Early Session (May 12–May 29)

Monday, March 9 ....................................... Summer term online registration begins for Rice undergraduate students (esther.rice.edu)
Summer term financial aid information available

Wednesday, April 1 ................................. Deadline: For early application discount for visiting students by 12:00 NOON

Friday, April 17 ........................................ Deadline: For application to Early Summer Session for visiting students by 12:00 NOON

Tuesday, May 5 ......................................... Early Summer Session admission status e-mailed to visiting students

Monday, May 11 ........................................ Registration Period for Visiting Students: 9:00 a.m.–1:00 p.m. Registrations from visiting students received after that time will be assessed at late registration fee
Deadline: For Rice undergraduate students to register online for Early Summer Session without a late registration fee
Deadline: For adding courses by 12:00 NOON for Rice undergraduates who have already registered
Deadline: For final tuition payment for all students
Tuesday, May 12 ........................................... First day of classes—Early Summer Session

Monday, May 18 ........................................... Deadline: For visiting and Class III students to submit official transcripts for Early Summer Session
Deadline: For dropping courses and withdrawing from Early Summer Session without academic penalty by 12:00 noon
Deadline: For designating “Pass/Fail” option for Early Summer Session
Deadline: For submitting refund requests for Early Summer Session

Monday, May 25 ........................................... Memorial Day (holiday—no classes)

Friday, May 29 ........................................... Last day of classes—Early Summer Session

Tuesday, June 2 ........................................... Deadline: For completion of all Early Summer Session course work, including final examinations

Friday, June 5 ........................................... Deadline: For instructors to submit grades online

Monday, June 8 ........................................... Grades for Early Summer Session available to students online (ester.rice.edu)

Summer 2009

General Session (June 1–July 24)

Monday, March 9 ...................................... Summer term online registration begins for Rice undergraduate students (ester.rice.edu)
Summer term financial aid information available

Wednesday, April 1 ................................. Deadline: For early application discount for the summer term by 12:00 noon for visiting students

Friday, May 1 ........................................... Deadline: For application to the General Summer Session by 12:00 noon for visiting students

Thursday, May 21 ..................................... General Summer Session admission status e-mailed to visiting students

Monday, May 25 ..................................... Memorial Day (holiday—no classes)

Friday, May 29 ......................................... Deadline: For final tuition payment for all students
Registration period for visiting students: 9:00 a.m.–1:00 p.m. Registrations from visiting students received after that time will be assessed at late registration fee

Monday, June 1 ........................................ First day of classes—General Summer Session

Friday, June 5 .......................................... Deadline: For adding courses for the General Summer Session by 12:00 noon
Deadline: For Rice undergraduate students to register online for General Summer Session without a late registration fee
Deadline: For designating “Pass/Fail” option for General Summer Session

Monday, June 8 ........................................ Deadline: For dropping courses and withdrawing from General Summer Session without academic penalty (no refunds after June 19) by 12:00 noon*
Monday, June 15............................. **Deadline:** For visiting and Class III students to submit official transcripts for General Summer Session

**Deadline:** For submitting refund requests for General Summer Session

Friday, July 3.............................. **Independence Day observed (holiday—no classes)**

Friday, July 24............................. **Last day of classes—General Summer Session**

Tuesday, July 28............................ **Deadline:** For completion of all General Summer Session course work, including final examinations

Friday, July 31............................. **Deadline:** For instructors to submit General Summer Session grades online

Monday, August 3 ......................... Grades for Summer term available to students online (esther.rice.edu)

* For courses starting after the first day of classes, the drop deadline is one week from the first day your class meets.

**2009 Full Summer Session**

(Graduate Students Only)

Monday, March 9............................ Full Summer Session registration for Rice graduate students begins online (esther.rice.edu)

Financial aid information available for Summer Session

Tuesday, May 12 ............................ **First day of classes—Full Summer Session**

Friday, May 15 .............................. **Deadline:** For dropping course without academic penalty for the Full Summer Session

Monday, May 25 ............................ **Memorial Day (holiday—no classes)**

Friday, July 3 .............................. **Independence Day observed (holiday—no classes)**

Friday, August 21 ............................ **Last day of classes—Full Summer Session**

Friday, August 28 ............................ **Deadline:** For instructors to submit grades for Full Summer Session online

Tuesday, September 1 ...................... Grades for Full Summer Session available to students online (esther.rice.edu). If a grade is not posted, please contact the instructor.
Message from the President

In some ways, Rice is like many of the other great research universities of America. We are committed, in the words of our mission statement, to “path-breaking research, unsurpassed teaching and contribution to the betterment of our world.” Yet, we also are boldly distinctive in the way we achieve these aims. In some cases, we choose, in the words of President John F. Kennedy, to do things “not because they are easy, but because they are hard.”

While we are among the renowned research universities of the world, we also are among the smallest, yet we have never wavered from matching research ambition and accomplishment with an unusual commitment to undergraduate teaching. We have adopted a phrase that captures the essence of Rice University: “unconventional wisdom.” Unconventional describes our (sometimes quirky) uniqueness, while wisdom reflects our success in contributing to new understandings and solutions.

Since its founding in 1912, Rice continually has sought to raise its sights and embark on new endeavors. Rice’s founding president, Edgar Odell Lovett, “set no upper limit to its educational endeavor,” and that philosophy of excellence and achievement is more important than ever as Rice prepares to celebrate its centennial anniversary in 2012 and to make an even greater impact in its second century of teaching and discovery.

Rice will continue applying its expertise to the needs of a world facing increasingly complex challenges: entrenched poverty, pandemic disease, religious intolerance, terrorism, fuel and water shortages and environmental degradation, to name just a few. It is also a world of possibility: environmental sustainability, renewable fuels, breakthroughs in health care and wellness, more peace and prosperity in more places, and greater understanding among the diverse peoples who inhabit our planet. The blueprint we have developed to prepare Rice to help solve those problems and realize those possibilities is the Vision for the Second Century. This 10-point strategic plan will expand Rice’s reach in critical areas of research and public service within its home city and throughout the country and the world. I encourage you to learn more about it at www.rice.edu.vision.

At each stage in our history, we have taken another step in the direction of realizing President Lovett’s original vision. Much of our success depends on the scholars and researchers who transform our classrooms and laboratories into catalysts for ideas and inventions. Much also depends on students of ambitious vision who are willing and able to take their Rice education to even greater heights. We aim to transform extraordinary students into extraordinary leaders.

We are pleased that you have chosen to become a part of this dynamic and resourceful university as it embarks on its second century of excellence and achievement. Welcome to Rice.

David W. Leebron
President
William Marsh Rice University
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 hearings, 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: 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 Office of the Dean of Undergraduates, who has general authority over the student disciplinary system. The Code of Student Conduct and other related information and resources are located at: students.rice.edu/students/Conduct.asp.
FACULTY GRADING GUIDELINES

The Committee on Examinations and Standing has drawn up the following guidelines on grading. Additional information is available on pages 31–34.

• 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. No course assignments may be due between the last day of classes and the first 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 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, incomplete, or other, 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 normally are 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 5 hours.
• First-year students receive mid-semester grades around the 8th 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 7th 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 advisors.

• 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 Office of the Dean of Undergraduates 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, COUNSELING SERVICES, AND THE WELLNESS CENTER

Student Health Fee

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

Student Health Services

Student Health Services, an outpatient primary care clinic, is located in the Morton L. Rich Health and Wellness Center. The clinic is staffed by primary care physicians, nurses, and ancillary support staff. More information can be found at www.rice.edu/health.

Clinic hours are from 8:00 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 clinics and 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.

Care at the clinic is arranged through appointment at 713-348-4966. In serious emergencies, students should call the Rice University Police Department at 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 Thanksgiving and the Christmas break. The clinic also is 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 and other preventive services
• General information for all students
• Contraceptive counseling and routine Pap smears
• Allergy shots (students must provide serum after a specialist allergy workup)
• Physical examinations

Confidentiality—The Student Health Service physician–patient relationship is a confidential one. Medical records will be released only on receipt of written authorization from the student or 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 also is 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 2008–09 is effective at 12:01 AM on August 15, 2008, and will terminate at 12:01 AM on August 15, 2009.

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 AM to noon and 1:00 PM to 5:00 PM, Monday through Friday. Students can make appointments by calling 713-348-4867 or by visiting the center. There are no costs for Counseling Center services.

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 these 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 for students in counseling at the center
• 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 3rd 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.

**The Wellness Center**

The Wellness Center is located in the Rich Health and Wellness Center. The center works with Student Health Services and the Rice Counseling Center to encourage and reinforce behaviors in students that promote a higher quality of health and well-being. Key target areas include prevention of substance abuse and misuse, unplanned pregnancies and sexually transmitted diseases, sexual assault and harassment, promotion of good nutrition and a healthy body image, disease prevention, management of time and stress to decrease depression, and improvement in the overall wellness of students. The Wellness Center offers educational material and programs, web-based information, audio-visual and print materials, many free health supplies, and free, confidential consultations and referrals for students. Nutritional counseling, massage therapy, and acupuncture also are available in the center. There are fees for some services. Call 713-348-5194 for an appointment.

**Disability Support Services**

Located in the Ley Student Center, Disability Support Services coordinates campus services for individuals with documented disabilities. For academic accommodations, adaptive equipment, or disability-related housing needs, Disability Support Services is the campus resource for all students with disabilities. Information is maintained on scholarships, internships, and other programs specific to students with disabilities. For more information, see the Disability Support Services website at www.dss.rice.edu. Students can schedule an appointment with the director of Disability Support Services by calling 713-348-5841.

**Section 504/ADA Coordinator**—The director of affirmative action serves as the Section 504/ADA coordinator at Rice University. Concerns or complaints relative to disability issues should be directed to the Office of Affirmative Action, 224 Herman Brown Hall, 713-348-4930.
**NOTIFICATION OF RIGHTS UNDER THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT**

The Family Educational Rights and Privacy Act (FERPA) is a federal law designed to protect the privacy of, and limit access to, student education records. The law affords students the following rights with respect to their education records: (1) the right to inspect and review the student's education records within 45 days from the day Rice University receives a request for access; (2) the right to seek amendment of the student's education records to ensure that they are not inaccurate, misleading, or otherwise in violation of the student’s privacy rights under FERPA; (3) the right to provide written consent to disclosures of personally identifiable information (as defined by law) contained in the student's education records, except to the extent FERPA authorizes disclosure without consent; and (4) the right to file a complaint with the U.S. Department of Education concerning alleged failures by Rice University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is: Family Compliance Office, U.S. Department of Education, 400 Maryland Ave. S.W., Washington, DC 20202-5901.

Students may request in writing to examine their education records in any offices that maintain student education records. Though not exhaustive, as a guide for students, this is a list of offices that maintain student education records: Admission Office, Office of the Registrar, Office of the Assistant Dean of Student Judicial Programs, Office of the Dean of Undergraduates, Office of Graduate and Postdoctoral Studies, Student Financial Services, Career Services, Office of Student Activities, Office of Academic Advising, Office of International Students and Scholars, Cashier’s Office, and departmental offices. The appropriate Rice official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the Rice official to whom the request is submitted, that Rice official will advise the student of the correct official to whom the request should be addressed.

Any questions, problems, or written requests for amendment of records should be submitted to the Dean of Undergraduates, the Dean of Graduate and Postdoctoral Studies, or the Registrar. A student who wishes to ask Rice University to amend a record should clearly identify the part of the record the student wants changed and specify why it should be changed. If Rice University decides not to amend the record as requested, Rice University will notify the student in writing of the decision and of the student’s right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

Rice University may disclose personally identifiable information to school officials with legitimate educational interests who require this information in order to perform instructional, supervisory, advisory, administrative, or other duties for Rice University. School officials include faculty, staff, contractors, auditors, attorneys, collection agents, Trustees, or students serving on official committees, such as disciplinary or grievance committees, or assisting another school official.

As permitted by FERPA, Rice University reserves the right to publish directory information without prior consent. Directory information consists of name, local and permanent address, telephone and mobile numbers and campus
electronic mail address, instant messenger address, date and place of birth, major and minor fields of study, dates of attendance, degrees and awards received, participation in officially recognized activities and sports, weight and height of athletic team members, the most recent previous education agency or institution, and photographic image. Students who prefer that such information not be released should notify the Office of the Registrar in writing, preferably before the end of the second week of fall classes, and the university will not release such information until a contrary notice or consent is received from the student.

INTRODUCTION

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

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

Rice University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS), the recognized regional accrediting body in the 11 U.S. Southern states.

Rice grants 2 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. The BS degree is offered 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 also are 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 5th 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 4 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. This same rule applies to minors.
• Satisfy the 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 and not under investigation

To satisfy the composition requirement, students must either pass the composition examination or successfully complete COMM 103 Academic Writing and Argumentation, a 1-semester course carrying 3 hours degree credit.

To satisfy the LPAP requirement, students must complete 2 different noncredit courses in LPAP. Students with disabilities may make special arrangements to satisfy this requirement.

In order to earn a 2nd degree, students must fulfill the requirements outlined on page 27.

**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 2 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. Courses taken outside of Rice and transferred in can be used to satisfy distribution requirements, assuming they are on the list of approved and designated distribution courses at the time they were taken. Completed courses taken prior to matriculation are subject to the list of designated distribution courses at the time of matriculation.

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 that address the problems, methodologies, and substance of different disciplines in the social sciences. The second are departmental courses that draw on at least 2 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 2 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.

In addition to meeting the degree requirements for all bachelor’s degrees, to qualify for the Bachelor of Arts, students in all fields except architecture must complete at least 60 hours in course work outside the major, and students in architecture must complete at least 36 hours in course work outside the major.

Bachelor of Science in the Wiess School of Natural Sciences

The Bachelor of Science degree is offered in astrophysics, biochemistry and cell biology, chemistry, chemical physics, earth science, ecology and evolutionary biology, 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), Civil Engineering (BSCE), Computer Science (BSCS), Electrical 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 civil engineering, electrical 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, mechanical 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
- Mechanical engineering—132 hours total
- Computer science majors—a total of at least 128 hours

Other Bachelor's Degrees

The professional Bachelor of Architecture (BArch) degree requires a 5th year of study and a 1-year preceptorship. The Bachelor of Music (BMus) degree requires advanced courses in aural skills in addition to the core music curriculum.

Undergraduate Majors

To receive a bachelor's degree, a student must complete the requirements for at least one major. Rice offers majors in many fields. Within some majors, students have the choice of a particular area of concentration. Students also may choose to fulfill the requirements for more than one major; such majors do not necessarily need to be in related fields. More detailed information on the departmental majors described below may be found in the Undergraduate Degree chart (pages 20–23), in the section “Departments and Interdisciplinary Programs” or by contacting the department. The process for declaring majors appears in the section Declaring Departmental Majors on page 26.

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 majors in bioengineering, chemical engineering, civil engineering, computational and applied mathematics, computer science, electrical and computer engineering, environmental engineering sciences, mechanical engineering, materials science and engineering, and statistics. 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 studies, Hispanic studies, history, kinesiology, linguistics, philosophy, religious studies, visual and dramatic arts, and sport management. Interdisciplinary majors are available in Ancient Mediterranean Civilizations, Asian Studies, Medieval Studies, and the Study of Women, Gender, and Sexuality, 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 5 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, earth science, mathematics, and physics. Students also may 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 sciences majors include science, engineering, and humanities courses, while the managerial studies major incorporates course work in the schools of engineering and management.

<table>
<thead>
<tr>
<th>School Department</th>
<th>Undergraduate Degrees Offered</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture</td>
<td>BA, BArch</td>
<td>BA majors in architecture and in architectural studies</td>
</tr>
<tr>
<td><strong>George R. Brown School of Engineering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioengineering</td>
<td>BSB</td>
<td>Areas of concentration in cellular and molecular engineering, biomedical instrumentation, imaging, optics, and biomaterials and biomechanics</td>
</tr>
<tr>
<td>Chemical and Biomolecular Engineering</td>
<td>BA, BSChE</td>
<td>Focus areas in bioengineering, environmental science and engineering, materials science and engineering, and computational engineering</td>
</tr>
<tr>
<td>Civil and Environmental Engineering</td>
<td>BA, BS</td>
<td>BA degree in civil and environmental engineering&lt;br&gt;BS with focus areas in environmental engineering, hydrology and water resources, structural engineering and mechanics, and urban infrastructure and management</td>
</tr>
<tr>
<td>Computational and Applied Mathematics</td>
<td>BA</td>
<td>Numerical analysis, operations research, optimization, differential equations, and scientific computation</td>
</tr>
<tr>
<td>Computer Science</td>
<td>BA, BSCS</td>
<td>Areas of concentration in architecture, artificial intelligence, computational science, foundations, human-computer interaction, and software systems</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>BA, BSEE</td>
<td>Areas of concentration in computer engineering; systems: control, communications, and signal processing; and photonics and nanoengineering</td>
</tr>
<tr>
<td>Global Health Technologies</td>
<td>Undergraduate minor&lt;br&gt;www.btb.rice.edu</td>
<td>Complementary contributions from the humanities, social sciences, policy, bioscience, and engineering programs</td>
</tr>
</tbody>
</table>

www.btb.rice.edu
<table>
<thead>
<tr>
<th>Department</th>
<th>Degree(s)</th>
<th>Areas of Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Engineering and Materials Science</td>
<td>BA, BSME, BSMS</td>
<td>Areas of concentration in aerospace, 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>Areas of concentration include applied and theoretical statistics, statistical computing, large data sets, bioinformatics/biostatistics, environmental statistics and finance</td>
</tr>
</tbody>
</table>

**School of Humanities**

<table>
<thead>
<tr>
<th>Department</th>
<th>Degree</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>American and British literature and culture 1300–present</td>
</tr>
<tr>
<td>French Studies</td>
<td>BA</td>
<td></td>
</tr>
<tr>
<td>German Studies</td>
<td>BA</td>
<td>German literature and culture</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 health science and sports medicine</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>Ethics, history of philosophy, metaphysics, philosophy of mind, philosophy of biology</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>BA</td>
<td>Areas of concentration in specific religious traditions and methodologies</td>
</tr>
<tr>
<td>Visual and Dramatic Arts</td>
<td>BA</td>
<td>Studio, film, and theatre arts</td>
</tr>
</tbody>
</table>

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

| Management | Undergraduate business minor |

**Shepherd School of Music**

| Music | BA, BMus | BA in music; BMus in composition, music history, music theory, and performance; joint BMus/MMus with fifth year of study |

**Wiess School of Natural Science**

<p>| Biochemistry and Cell Biology | BA, BS | Part of an integrated biosciences curriculum. Degree programs include BA and BS in biochemistry and cell biology and a BA in the biological sciences |</p>
<table>
<thead>
<tr>
<th>Program</th>
<th>Type(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry</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>Earth Science</td>
<td>BA, BS</td>
<td>Major tracks in geology, geophysics, geochemistry, and environmental earth science.</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology</td>
<td>BA, BS</td>
<td>Part of an integrated biosciences curriculum. Degree programs include BA in the biological sciences and BS in ecology and evolutionary biology</td>
</tr>
<tr>
<td>Mathematics</td>
<td>BA</td>
<td>300-level courses oriented toward problem solving and applications and 400-level courses and above oriented toward theory and proofs; preparation for graduate studies in mathematical or other sciences, professional schools, employment in the scientific or financial sector 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, algebraic geometry, dynamics, etc.</td>
</tr>
<tr>
<td>Physics and Astronomy</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>

**School of Social Sciences**

<table>
<thead>
<tr>
<th>Program</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>BA</td>
<td>Areas of concentration in archaeology and social/cultural anthropology</td>
</tr>
<tr>
<td>Economics</td>
<td>BA</td>
<td>Majors in economics and in mathematical economic analysis</td>
</tr>
<tr>
<td>Political Science</td>
<td>BA</td>
<td>Areas of concentration in American, comparative, and international relations</td>
</tr>
<tr>
<td>Psychology</td>
<td>BA</td>
<td>Areas of concentration in cognitive psychology, industrial/organizational psychology, and human factors/human–computer interaction</td>
</tr>
<tr>
<td>Sociology</td>
<td>BA</td>
<td>Theory, methods, and major substantive areas of the field, including major social institutions and social processes</td>
</tr>
</tbody>
</table>

**Interdepartmental Majors**

<table>
<thead>
<tr>
<th>Program</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area Majors</td>
<td>BA</td>
<td>Requires approval of two or more departments, the Office of Academic Advising, and the Committee on Undergraduate Curriculum (see page 27)</td>
</tr>
<tr>
<td>Ancient Mediterranean Civilizations</td>
<td>BA</td>
<td>Anthropology, classical studies, Greek, Hebrew, Latin, history, history of art, linguistics, philosophy, and religious studies</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>BA</td>
<td>Anthropology, Chinese, English, Hindi, history, history of art, humanities, Japanese, Korean, linguistics, political science, religious studies, sociology, Tibetan</td>
</tr>
<tr>
<td>Cognitive Sciences</td>
<td>BA</td>
<td>Computer science, linguistics, neuroscience, philosophy, and psychology</td>
</tr>
</tbody>
</table>
### Education Certification

<table>
<thead>
<tr>
<th>Program</th>
<th>Degree</th>
<th>Leads to Secondary Teaching Certificate in conjunction with BA in major field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Sciences</td>
<td>BA</td>
<td>Core science classes and interdepartmental environmental electives in social sciences, economics, humanities, architecture, natural sciences, and engineering</td>
</tr>
<tr>
<td>Financial Computation and Modeling</td>
<td>Undergraduate major</td>
<td>Statistics, economics, and finance</td>
</tr>
<tr>
<td>Global Health Technologies</td>
<td>Undergraduate minor</td>
<td>Complementary contributions from the humanities, social sciences, policy, bioscience, and engineering programs</td>
</tr>
<tr>
<td>Managerial Studies</td>
<td>BA</td>
<td>Accounting, economics, and statistics</td>
</tr>
<tr>
<td>Medieval Studies</td>
<td>BA</td>
<td>Art history, Asian studies, classics, English, French, German, history, humanities, linguistics, Spanish, music, philosophy, political science, and religious studies</td>
</tr>
<tr>
<td>Policy Studies</td>
<td>BA</td>
<td>Environmental policy, government policy and management, healthcare policy and management, international affairs, law and justice, business policy and management, and urban and social change</td>
</tr>
<tr>
<td>Sport Management</td>
<td>BA</td>
<td>Core classes include: introduction to sport management, sport marketing, sport law, event and facility management, sales and revenue generation in sport, media relations, and internship. Students also will complete classes to fulfill research, speech, and writing requirements. Electives include: classes from the business minor, economics, and managerial studies.</td>
</tr>
<tr>
<td>Study of Women, Gender, and Sexuality</td>
<td>BA</td>
<td>Anthropology, art history, English, French studies, German, Spanish, history, humanities, economics, linguistics, music, psychology, philosophy, religious studies, and sociology</td>
</tr>
</tbody>
</table>

### Teacher Certification

Students in the teacher certification program earn Texas state teacher certification at the secondary level, grades 8–12. Subjects include art, English, French, German, health science, history, Latin, life science, mathematics, physical education, physical science, physics/mathematics, 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, Exchange, and Work Abroad Programs

Rice University provides students the opportunity to embark on a cultural learning experience by offering a variety of destinations and program options worldwide. Students can choose to study abroad with one of more than 500 affiliated programs. Some affiliates specialize in intensive language instruction, some in field research opportunities, and others in facilitating direct enrollment at universities around the world. More than 12 direct exchange programs with internationally renowned universities allow Rice students to act as ambassadors abroad while providing the opportunity for a student from the host institution to study at Rice. Work programs allow students to travel to another country.
and work during or after their time at Rice. Experiences range from casual jobs to professional internships.

Each year, more than 250 undergraduates from across the disciplines study abroad and then apply the transfer credit toward their degrees. The study abroad advisors, in cooperation with the faculty advisors in each department, assist students in identifying the best programs for their individual interests and academic needs. To assure proper enrollment, transfer of credits and financial aid, students planning to study abroad must make their arrangements through the Rice Office of International Programs. This includes arranging prior approval for transfer credit through the relevant academic department(s) and the registrar.

Students are discouraged from participating in a study abroad program during the last semester of their senior year. Should students choose to go abroad in the spring, it should be noted that their degree will not be conferred until the following January, and if they go abroad in the fall, their degree will not be conferred until the following May.

Detailed information on affiliated programs, including application forms, is available from the Rice Office of International Programs (first floor, Ley Student Center) or online at abroad.rice.edu.

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 Office of the Dean of Undergraduates.

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. Students are strongly encouraged to meet with their divisional or major advisor to discuss their courses for the upcoming semester.

To be properly registered, new students must complete, sign, and return an 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 also is 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 2nd week in August and for the spring semester by the end of the 1st week in January. Any student not registered as of the last day to add classes or any student who is in arrears or becomes in arrears after the last day to add classes will be withdrawn from the university by default. Withdrawn students may not be allowed to receive credit for the withdrawn semester.

Appeals to this policy must be addressed to the dean of undergraduates. If readmitted, students must petition the Committee on Examinations and Standing to add classes late and must pay a late registration fee of $125. Additionally, students who are readmitted after being withdrawn for nonpayment will be assessed a $300 readmission fee.
Drop/Add—During the first 2 weeks of the semester, students may add or drop courses without penalty. After the 2nd 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 to add a course in the 3rd or 4th week of classes (a $25 fee will be assessed)
- May not add courses after the 4th week of classes, except with the approval of the Committee on Examinations and Standing (a $75 fee will be assessed)
- May drop courses after the 4th week up to the end of the 10th week of classes (a $25 fee will be assessed for courses dropped between week 4 and week 10*)
- May drop courses after the 10th week and up to the last day of classes (a $75 fee will be assessed for courses dropped between week 10 and week 14*)

**All other students:**
- Must obtain instructor's permission to add a course in the 3rd or 4th week of classes (a $25 fee will be assessed)
- May not add courses after the 4th week of classes, except with the approval of the Committee on Examinations and Standing (a $75 fee will be assessed)
- May drop courses after the 4th week up to the end of the 10th week of classes (a $25 fee will be assessed for courses dropped between week 4 and week 10* )
- May not drop courses after the end of the 10th week of classes, except with the approval of the Committee on Examinations and Standing (a $75 fee will be assessed)

For courses with start and end dates not coinciding with the normal Rice semester calendar, otherwise known as part of term courses, 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
- The add/drop deadline for these part of term courses will be posted on the registrar's website.

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

*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 Office of the Dean of Undergraduates before registering for courses, if they want to:
- Register for or add to 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 also should 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.

**Repeated Courses**

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 term and cumulative grade point average calculations. In most cases, if students repeat courses previously passed, credit is awarded only once. For example, a student took HIST 117 and received a grade of B. The student repeated HIST 117 and received a grade of A. Both grades—the A and B—appear on the transcript and are included in his/her GPA; however, he/she only receives 3 credits toward his/her degree. On the transcript, a repeated course is indicated by one of the following values:

I—Included in GPA and earned hours

A—Included in GPA, but excluded from earned hours

E—Excluded from both GPA and earned hours

Some Rice University courses may be repeated for credit. They are specifically noted in the *Course Offerings* each semester. If a course may be repeated for credit, each grade appears on the permanent record and is included in the grade point average.

If students repeat courses for which they have received either advanced placement or transfer credit, credit will not be counted. Nor can credit be received twice for students transferring courses that repeat previous enrollment at Rice.

Students may not receive credit twice for cross-listed, equivalent, or graduate/undergraduate equivalency courses taken at the same time. If the course is not repeatable, students may not receive credit for cross-listed, equivalent, or graduate/undergraduate equivalency courses taken in different semesters.

**declaring Departmental Majors**

Students declare their major via the Declaration of Major form. The department chair or designee must sign the form acknowledging the declaration. 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, however, may 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 during the spring of their sophomore year. They will not be permitted to register for the fall semester of their junior year without having declared a major. The major declaration deadline is listed in the Academic Calendar each year.

Students are free to declare a major at any time before this deadline and always are free to change their major by completing the appropriate form. 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 title of the major is noted on the student's transcript, and a faculty advisor in the major department is assigned. Students and their advisors should regularly review progress toward 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 major, students should consult the departmental listings and seek the advice of the faculty member who is the designated major advisor. It is the responsibility of the student to meet regularly with their advisors 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 2 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 the Office of Academic Advising and with faculty advisors 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 advisors. Any change in the proposed requirements needs the approval of both the faculty advisors and the Committee on the Undergraduate Curriculum.

Students may not propose an area major if they are within 3 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 4-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 4-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 visiting or 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 4-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 a second degree should submit an additional declaration of major form with the Office of the Registrar. This paperwork should include the addition of the proposed degree and major programs along with the approval of the chair or undergraduate advisor of each department involved, indicating that the proposed course program satisfies all major and degree requirements.

**Students with a Bachelor’s Degree from Rice**—Rice graduates who wish to earn a different 4-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 (must include 2 full-time fall and/or spring semesters) upon their return to Rice and beyond their first bachelor's degree (these hours are applied to the second 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 4-year bachelor's degree in a different major from Rice must:

- 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 4 fall and/or spring semesters

Interested students should apply for admission through the Office of Admission. See 43 for details on application requirements for Second Degree Students.

**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 4-year bachelor's program. This means that housing probably will probably not be available.

**Honors Programs**

To enroll in the 2-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 advisor to guide their research. The project concludes in an honors thesis, which the advisor and two readers evaluate, and an oral examination. Departments also use honors programs to formally recognize students who have shown outstanding work through their individual projects. Acceptance into a departmental honors program is at the discretion of the faculty. For specific requirements and procedures, students should contact the individual departments.

Transfer Credit

Courses taken at another college or university that are appropriate to the Rice curriculum may be approved for transfer credit toward a Rice undergraduate degree. Students must have taken the course at a United States academic institution accredited by a regional accrediting agency or with a study abroad program approved by the Rice Office 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. Grades earned for transfer credit are not entered on the Rice transcript, and transferred courses have no effect on a student’s Rice grade point average. After matriculation at Rice, students are limited to 14 semester hours of summer school transfer credit. 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.

All transferable credits from quarter-system schools will be converted to semester hours. In accordance with university guidelines and based on the external transcript, the Office of the Registrar will determine appropriate transferable credit hours and whether the credits are upper-level or lower-level.

Students with much transfer credit should be aware of the general graduation requirements (pages 16–19): Students must complete at least 60 semester hours, 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.)

Pre-Matriculation Transfer Credit—For transfer work completed prior to matriculation, the Office of the Registrar, in conjunction with the academic departments, determines whether courses are appropriate for transfer to Rice as Rice equivalent courses or as TRAN, general elective hours. TRAN will be indicated as either upper- or lower-level and will count toward the total hours needed for graduation and for required upper-level credit if the TRAN credit is designated by the Office of the Registrar as upper-level. 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 course is then listed on the student’s transcript and satisfies the university and major requirements the Rice course satisfies.

Pre-Matriculation International Transfer Credit—Students seeking transfer credit for courses taken at institutions outside the United States must present a professional course-by-course evaluation of the foreign official transcript. The professional evaluation must verify that the foreign institution is equivalent to a regionally accredited U.S. academic institution and must include an explanation of credits earned (including U.S. semester hour equivalents), grade equivalents, and course levels (lower or upper level). Two reliable services with course-by-
course evaluations that include this required information are World Education Services, Inc. (www.wes.org) and Educational Credential Evaluators, Inc. (www.ece.org). All professional evaluations should be obtained from one of these two recommended credential services and submitted to the Office of the Registrar. Payment for the professional evaluation is the responsibility of the student.

**Post-Matriculation Transfer Credit**—Continuing students who plan to transfer courses are strongly advised to seek prior approval. Without such approval, students cannot be certain transfer credit will be accepted at Rice. To receive Rice equivalent credit, students are required to complete the appropriate form and secure approval from the designated transfer credit advisor in the department offering the Rice equivalent course. Unless approval is secured before or after completing the transfer credit, students can expect transferable courses to be granted TRAN. Transfer credit will be evaluated only after the Office of the Registrar receives an official transcript from the other college or university.

**Study Abroad Transfer Credit**—For continuing students with credits obtained while studying abroad, the Office of the Registrar must also receive a Request for Transfer Credit form from the Rice Office of International Programs before transfer credit may be granted. In certain cases, students may be required to obtain a professional evaluation of the study abroad transcript. Two reliable services with course-by-course evaluations that include this required information are World Education Services, Inc. (www.wes.org) and Educational Credential Evaluators, Inc. (www.ece.org). All professional evaluations should be obtained from one of these two recommended credential services and submitted to the Office of the Registrar. Payment for the professional evaluation is the responsibility of the student.

**Attendance and Excused Absences**

Students are expected to attend all scheduled activities for all of the classes for which they are registered during the entire course of the academic semester for which they are enrolled. The academic calendar indicates normal class days, recesses, and holidays. Instructors, however, may schedule required activities on other days, including recesses, holidays, and weekends, if required by programmatic needs, such as laboratories or field trips. Such requirements must be clearly stated in the online course description available at registration and on the syllabus, and instructors should try to provide compensatory time off for students.

The university understands that students participating in university-sponsored extracurricular activities may, on rare occasions, need to miss a class session during the semester. As a matter of course, students should inform their instructors in advance of absences resulting from participation in university-sponsored activities, and faculty normally will give a reasonable opportunity to make up work missed on such occasions.

No nonacademic university-sponsored event at which student attendance is required may be scheduled or rescheduled for any date after the day following the last day of classes. Exceptions may be granted by a quorum of the Committee on Examinations and Standing only for events where scheduling is not under the control of the university. On the class days falling during the last calendar week of classes, an individual student may participate in only one university-sponsored event, which may be scheduled or rescheduled, so long as no more that one night would be spent outside of Houston for travel. For events during the last week of classes, the reading period, and the final examination period, a quorum of the Committee on Examinations and Standing must be satisfied that each student is in satisfactory academic standing to participate in an event. If a quorum of the Committee on Examinations and Standing cannot meet in a timely fashion, then the executive committee of the Faculty Senate will handle exception requests.
Absences for activities other than university-sponsored events may 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**

The decision to give a final exam as a required part of the course rests with the instructor. All tests and examinations are conducted under the honor system. No examinations or other course assignments may be due between the last day of classes and the first day of the final examination period.

Examinations are considered final examinations when they:

- Cover more than the material learned since the last exam, 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.

All class periods will be assigned a final examination time by the Office of the Registrar. Instructors may choose to use that time for a scheduled final. If they choose this option, the registrar will assign a room, and the final exam will be administered in that room at the designated time. Instructors may choose instead to give a take-home exam or no exam at all. Some instructors assign end-of-term projects or papers rather than final examinations. With regard to due dates, final papers or projects will be treated the same as take-home exams.

Take home exams should be available to the students as soon as possible after the end of classes, but must be available no later than the end of the next business day after classes have ended. Take home exams may be no longer than 5 hours in length. The due date of take-home exams may be no earlier than the end of the examination time assigned to that class by the registrar. Instructors may specify due dates later than this time but not later than the end of the last day of the examination period.

No student should be given an extension of time or opportunity to improve a grade that is not available to all members of the class, except for verified illness or justified absence from campus. However, students cannot be required to take more than two scheduled exams in two consecutive calendar days. Students also cannot be required to complete more than two take-home and/or scheduled final exams on the same calendar day (unless this is the last day of the examination period). In both instances, if the student wishes to make alternative arrangements and is unable to work out such arrangements with the instructor(s) involved, the instructor of the third and any subsequent exams will be required to allow the student to reschedule that exam.

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

**The Pass/Fail Option**—Undergraduates may register for courses on a pass/fail basis. 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 5-year degree program)
- May not take more than a total of 14 semester hours total as pass/fail
• May register for only 1 course as pass/fail in a semester
• May not take as pass/fail those courses specifically required for the major
  or courses falling within the major department or major area. If students
  take such courses pass/fail, the registrar will replace the P with the grade
  earned during the final degree audit. This same rule and process applies
  to minors.
• 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 Office of the Registrar. The deadline is by the end of the 2th 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 in their GPA. Students
who take a course during the Rice summer session as pass/fail also should be
aware that this counts toward their allowable total of 4 courses.

Grade Symbols—Instructors are required to report a grade for all students
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. For auditing students, instructors report either the AUD or the NC grade
symbol, the AUD if the student met the audit requirements of the class, or the
NC if they have not.

Students successfully completing a course pass/fail receive a P, and failure to
complete the course successfully is indicated by an F. A P does not affect the
grade point average. Completion of the composition requirement is denoted
by a grade of E.

Satisfactory/unsatisfactory courses are those that do not use traditional grading
procedures. Such courses or labs are designated by the instructor and are, in
most cases, graduate level courses. Students successfully completing a course
satisfactory/fail receive an S; failure to complete the course successfully is indicated
by an F. While an S does not affect the grade point average, an F does.

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:

AUD (“Audit”)—This designation is only used for people auditing the course,
and specifically where the auditing student has met the audit requirements
of the course. There is no credit associated with an AUD grade designation.

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 by the end of the 4th week of the next
semester or an earlier date as defined by the instructor, and instructors must
submit a revised grade, by the end of the 5th week of the next semester.
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 by the 4th week
of the next semester for the instructor to grade the documents and submit
the final grade to the Office of the Registrar by the deadline. Loss or lateness
because of mail service is not an acceptable excuse for failing to meet academic
deadlines. A student who receives 2 or more “incompletes” in a semester may
not enroll in the next semester for more than 14 semester hours. Students also should 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 Office of 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 1st week of the spring semester or by the end of the 4th week after Commencement, whichever is applicable. Students should be aware that they may be placed 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 5 weeks of the semester will receive a final grade of “W” for each course in which they were enrolled at the time of withdrawal. 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 Office of the Registrar.

Students who officially withdraw from the university before the last 5 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 receives approval from the Committee on Examinations and Standing to drop a course 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 1st 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.

NC (“No Credit”)—This designation signals that no credit was granted for the course. It is used in situations where a person auditing a course has not met the audit requirements of the course. The “No Credit” designation also is used in various honor council or judicial situations where a student is required to forfeit credit for a course.

Grade Points—To compute grade point average, letter grades are assigned numeric values as follows:

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

Grade Point Average Calculation—For each course, the credit hours attempted and the points for the grade earned are multiplied. The points for each course are added together, and the sum is divided by the total credit hours attempted. Grade point averages are noted each semester on the student’s official transcripts.
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 the top 30 percent of undergraduates receive recognition each semester. While undergraduates enrolled in a 4-year bachelor's degree program always are eligible for the President’s Honor Roll, students enrolled in 5-year bachelor's or master's programs are eligible only during their 1st 8 semesters.

University (Latin) Honors—Unlike the President’s Honor Roll, which recognizes academic excellence achieved over a single semester, eligibility for the three categories of Latin Honors (summa cum laude, magna cum laude, and cum laude) are based on the cumulative grade point average for all undergraduate work at Rice. Recipients are determined by the following procedure: At the end of the spring semester and after receipt of all grades, the grade point average within the highest 5 percent of the year’s graduating class is recommended for the summa cum laude honor. The grade point average included within the next highest 10 percent is used to determine those eligible to graduate with the magna cum laude honor. Finally, the grade point average included within the next 15 percent is used to determine those students eligible to graduate with the cum laude honor. Thus, approximately 30 percent of each graduating class receives Latin Honors on graduation.

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 other disciplinary matters) may not be candidates for, or hold, any elected or appointed office, nor are they allowed to enroll in more than 17 semester hours.

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

• Earn grades that will place them on academic probation a 3rd time
• Have a grade point average for the semester that is less than 1.00 (exceptions are made for students completing their 1st semester at Rice)

Students readmitted after a period of academic suspension will be suspended again if, in any succeeding semester, they fail to meet at least 1 of the following requirements:

• A cumulative and semester grade point average of at least 1.67, or
• A semester average of at least 2.00

The 1st suspension period is normally 1 semester; the 2nd suspension period is at least 2 semesters. Students are not readmitted after a 3rd suspension.

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.

Students who are going to be suspended for academic performance are notified by the registrar after all final grades have been received and posted to their record. Suspension is lifted the 1st 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.

Students facing a first or second academic suspension who verify with the registrar, academic advising, and their department that successful completion of their proposed academic plan would satisfy their degree requirements in 1 semester if allowed to return, may have their suspension reduced to probation. This is known as the senior exception rule, and 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.

Readmission after Suspension—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 Office of the Dean of Undergraduates, 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 2 supporting letters from persons for whom the student has worked during the suspension period as a student or an employee. The petition must include 2 supporting letters from persons for whom the student has worked during the suspension period as a student or an employee. The petition also must include an academic plan approved by the Office of Academic Advising. Guidelines for completing an academic plan can be found at www.rice.edu/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 the first semester upon return from an academic suspension, students may not be candidates for, or hold, any elected or appointed office, nor are they allowed to enroll in more than 17 semester hours.

In some instances, the committee may postpone approval of readmission or rule that suspension is permanent. Although it may do so at its discretion, the Office of the Registrar 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.

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 or code of conduct reasons. Students who are on disciplinary suspension, under investigation for disciplinary violations, or who have disciplinary proceedings pending against them (including for an honor system or code of conduct violation) may not receive their degree even if they have met all academic requirements for graduation. Students who are suspended 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 up to 1 week. Any tuition refund will be prorated from the official date of suspension, which is determined by the registrar. While on disciplinary suspension or probation, students may not run for, or hold, any elective or appointed office in any official Rice organization, nor may they serve as Orientation Week advisors once they return to the university following a suspension. 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.
Students seeking readmission after leaving the university because of **disciplinary actions** (including **honor system or code of conduct actions**) or other **nonacademic action** should submit a petition in writing for review by the assistant dean of Student Judicial Programs.

**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 Office of the Dean of Undergraduates, 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 may be considered for readmission after they submit a written application to the Office of the Dean of Undergraduates. The petition, received no later than July 1 for the fall semester, and December 1 for the spring semester, should include an academic plan approved by the Office of Academic Advising and two letters of support. If students withdraw within 5 weeks of the last day of classes, they must submit the written application to the dean of undergraduates who, at his discretion, will submit it to the Committee on Examinations and Standing. If students withdraw within 5 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.

**Medical Withdrawal**—Students may request a medical withdrawal from the university by applying in writing to the Office of the Dean of Undergraduates at any time during the semester, up until the last day of classes.

Students should submit written petitions for readmission no later than July 1 for the fall semester and November 1 for the spring semester after a medical withdrawal to the Office of the Dean of Undergraduates. This petition must include documentation of treatment provided and students must have an interview with the director of the Rice Counseling Center or Student Health Services or their designees. The petition also must include an academic plan approved by the Office of Academic Advising.

Students who withdraw for psychological reasons within the last 5 weeks of the fall semester will not be eligible to apply for immediate readmission. An appeal for readmission will not be considered until the fall semester of the following year, and must be received no later than July 1.

**Involuntary Withdrawal**—The university may insist on a student’s involuntary withdrawal if, in the judgment of the dean of undergraduates, 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 condition that 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 no later than July 1 for the fall semester and November 1 for the spring semester after an involuntary
withdrawal to the Office of the Dean of Undergraduates. This petition must include documentation of treatment provided and students must have an interview with the director of the Rice Counseling Center or Student Health Services or their designees. The petition also must include an academic plan approved by the Office of Academic Advising.

Students who withdraw for psychological reasons within the last 5 weeks of the fall semester will not be eligible to apply for immediate readmission. An appeal for readmission will not be considered until the fall semester of the following year, and must be received no later than July 1.

Unauthorized Withdrawal—Students who leave the university without first obtaining permission to withdraw are considered to have resigned. In order to be considered for readmission, students must submit a petition no later than July 1 for the fall semester and December 1 for the spring semester to the Committee on Examinations and Standing, in care of the Office of the Dean of Undergraduates, for readmission.

Leave of Absence—Students may request a leave of absence from the university by applying in writing to the Office of the Dean of Undergraduates at any time before the 1st day of classes in the semester for which they are requesting leave. A leave of absence taken after the 1st day of classes is considered a voluntary withdrawal.

To gain readmission following an approved leave of absence of not more than 4 semesters, students must notify the Office of the Dean of Undergraduates at least 1 month before the beginning of the semester that they intend to end their leave. The student also must include an academic plan approved by the Office of Academic Advising. After a leave of more than four semesters, students must submit a written application to the Committee on Examinations and Standing no later than July 1 for the fall semester and December 1 for the spring semester. The petition should include an academic plan approved by the Office of Academic Advising and two letters of support.

Approval of a leave of absence always is 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 Office of the Dean of Undergraduates.

Completing Graduation Requirements Elsewhere—Students planning to complete and transfer in remaining courses from another institution must first secure formal written approval from the Dean of Undergraduates. Transfer credit is subject to all Rice's transfer credit policies. All other graduation requirements apply, and the student is expected to adhere to all requirements and deadlines.

Applicable Academic Graduation Requirements

Students enrolled in 4- (or 5-) 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 7 (or 8) years after their initial registration, students 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 7 (or 8) 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, major, or minor is created during the student’s time at Rice, the new program will be available to the 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 Registration**

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 4 weeks of the semester. Students can request exceptions to these deadlines by petitioning the Committee on Examinations and Standing.

**Transcript Policies**

Official transcripts are issued only at the request of the student. Official transcript requests should be made at least 5 working days before the desired date of issue. A $5 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 in 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 information that is a) personally identifiable and b) a part of the educational record. However, certain exceptions to this general rule, both in types of information
that 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 and mobile number(s),
campus email address(es), and instant messenger address(es)
2. Date, place of birth, and gender
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
2nd 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. Students have a right to file a complaint with the
U.S. Department of Education concerning alleged failures by Rice University
to comply with the requirements of FERPA. For more information regarding
FERPA, please visit the U.S. Department of Education’s website.

For complete information regarding Rice’s policy on student education records,
please contact:

**Rice University Registrar**
Rice University
Office of the Registrar–MS 57
6100 Main Street
Houston, TX 77005-1892
Email: registrar@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 Veterans Administration (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 2 months before the date of entry. Such time is
required to expedite the processing of paperwork for educational allowances
from the VA.
For certification of benefits, the student must be enrolled according to the following schedule:

<table>
<thead>
<tr>
<th></th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time</td>
<td>12 credits</td>
</tr>
<tr>
<td>1/2 Time</td>
<td>6 credits</td>
</tr>
<tr>
<td>3/4 Time</td>
<td>9 credits</td>
</tr>
<tr>
<td>Less than 1/2 Time</td>
<td>5 credits</td>
</tr>
</tbody>
</table>

For rate of monthly payment of educational allowances for veterans and dependents, please contact the Office of Veterans Affairs.

For additional informational regarding other veterans educational programs, contact the Office of the Registrar at 713-348-4999 or registrar@rice.edu.

**APPLICATION FOR GRADUATION**

All students must complete and submit in a timely manner 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 Susanne M. Glasscock School of Continuing Studies, offers courses for credit to Rice students, visiting undergraduates, graduate students, and Class III students (see pages 81–82). Two summer sessions are offered: in May and in June–July. See Academic Calendar, pages vii–xiii. Taking 6 to 8 semester hours in 1 session is considered a full load. Interested students should complete the application form found on the summer school website at gscs.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 and a completed Dean of Students Recommendation form (mailed directly from their universities and colleges to the Glasscock 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 in the form of private educational loans 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 email at scsummer@rice.edu, or online at gscs.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*, p. 17, third rev. ed. 2006). 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, of keen intellect and diverse backgrounds who not only show potential for success at Rice, but also 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, motivation, 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 experiences, 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 admission 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 admission 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, intercultural 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 college 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 admission 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 6 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, students are able to move freely among most divisions after consultation with their advisors. Music students must pursue the music program for at least the 1st 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 4 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 (the SAT and 2 SAT subject tests, or the ACT with the writing test).

**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 (precalculus) or other advanced mathematics courses and both chemistry and physics. Students may substitute a 2nd 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 in high school, 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. The college courses should be part of the normal curriculum of the college and taught by regular members of the college faculty.

2. 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. College-level courses that appear on the high school transcript will not yield credits at Rice.

Recommendations—Candidates must submit evaluations from their guidance counselor and 1 teacher. The necessary forms are included in the Common Application at www.commonapp.org.

The Application—Rice is an exclusive user of the Common Application. The application and the Rice Supplement provide 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. The application fee is $60. 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 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—All freshmen applicants must take either the SAT and 2 SAT subject tests in fields related to their proposed area of study, or the ACT with the writing test.

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. Off-campus interviews are conducted throughout the United States and abroad by Rice alumni. The Committee on Admission makes no distinction between on-campus and off-campus interviews. Please consult the university website, 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 on-campus interview with a faculty member from the School of Architecture is strongly recommended.

### Decision Plans

**Early Decision Plan**—Early Decision is a binding decision plan designed for students who have selected Rice as their 1st choice. Students may initiate applications to other colleges under nonbinding plans but must withdraw those applications if admitted to Rice.

Early Decision applicants must complete the required standardized testing prior to or by the November testing dates in their senior year. All other materials should be submitted by November 1. Admission notices will be mailed by mid December. The committee will admit, defer, or deny Early Decision applicants. Deferred applicants are considered with the Regular Decision pool.

*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 $300 nonrefundable deposit by January 2.*

An additional $100 housing deposit is required of those desiring on-campus accommodations.

Those accepted under Early Decision who demonstrate financial aid eligibility will receive a financial aid package in the admission packet. To apply for need-based aid, Early Decision applicants must submit the College Scholarship Service Profile and the student and parent 2007 income tax and W-2 forms by November 15, 2008. Register for the CSS PROFILE at www.collegeboard.com. Students will complete the PROFILE online. The PROFILE number for Rice is 6609.

**Regular Decision Plan**—Students who apply Regular Decision must submit their materials by January 2 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 December of their senior year of high school.

Regular Decision applicants who are offered admission should submit a $300 enrollment deposit by May 1 to reserve their places in the incoming class. Those who desire a room on campus must pay an additional $100 deposit. After May 1, deposits are not refundable.

### Accelerated Students

Rice University will accept applications from students who are completing high school in less than 4 years. It is important to note that these students will compete with other candidates who will be completing 4 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 1 Teacher Evaluation and a School Report from all applicants. Either the School Report or the Teacher Evaluation must be from someone not related to the student.

**Transfer Students**

Students with superior records from 2-year or 4-year colleges or universities may apply as transfer candidates. Applicants for transfer admission must file the following with the Office of Admission:

- The Transfer Common Application and the Rice Supplement
- Official transcripts of all high school and college work completed to date, as well as courses in progress
- Professional evaluation of transcripts from non-U.S. institutions. Recommended evaluators are World Education Services (www.wes.org) and Education Credential Evaluators (www.ece.org).
- Two faculty recommendations
- A recommendation from the dean of students
- SAT or ACT scores
- A $60 application fee

Applications with the appropriate documents must be submitted 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 or ACT must be taken by March 15 for fall application and October 15 for spring application. The SAT Subject Tests are not required.

**International transfer students are eligible to apply to the fall semester only.**

Students for whom the $60 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 4 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/INTERNATIONAL CERTIFICATE PROGRAMS

Advanced Placement—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 the corresponding Rice course(s).

International Baccalaureate—Students who complete the International Baccalaureate diploma and receive a score of 6 or 7 on a higher-level IB exam will receive course credit for the corresponding Rice course(s).

International Certificate Programs—Students who have completed various international certificate programs may receive course credit for corresponding Rice courses; however, each student’s documentation will be reviewed individually and on a case-by-case basis. The General Certificate of Education A-Level (United Kingdom), the Abitur (Germany), and the Baccalaureate (France) are eligible for review.

OTHER STUDENTS

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

Visiting Students—Students who wish to spend a semester or a year at Rice taking courses for credit to be applied toward their undergraduate degree at another school may apply for admission as visiting students through the Office of Admission. The student’s application should be accompanied by the $60 application fee, an official high school transcript, an official transcript of college work to date, an 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 submitted 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 1 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 and Postdoctoral 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 significantly different from their first degree. The application, a $60 application fee, official transcripts of all undergraduate and graduate work, a final high school transcript, 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 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 applications are available on the admission Web site.

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 2nd 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 courses as dual enrollment students. This enrollment is restricted to a maximum of 2 courses per semester per student. The written application, application fee of $60, high school transcript, a teacher and a counselor recommendation from the applicant's high school, and an SAT 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. Dual Enrollment applications are available on the admission Web site.

Tuition for new students is $1,249 per semester hour plus a $130 nonrefundable registration fee. Tuition for returning dual enrollment students would be the rate (plus increases) at which they first took dual enrollment courses at Rice. These charges are for the 2008–09 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 1 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. The audited course will appear on the student's transcript with the designation AUD. Currently enrolled students may audit courses without charge. Rice alumni are charged a fee of $320 per course per semester. All others are charged $625 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 4th 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 first-year and mid-August for all others, and the spring semester due date is the 1st week of January. The following costs apply to undergraduates in the 2008–09 school year:

<table>
<thead>
<tr>
<th>Tuition</th>
<th>Annual</th>
<th>Semester</th>
<th>Hour¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering first-year and tranfer</td>
<td>$29,960.00</td>
<td>$14,980.00</td>
<td>$1,249.00</td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students matriculating in 2007-08</td>
<td>29,960.00</td>
<td>14,980.00</td>
<td>1,249.00</td>
</tr>
<tr>
<td>Students matriculating in 2006-07</td>
<td>29,470.00</td>
<td>14,735.00</td>
<td>1,228.00</td>
</tr>
<tr>
<td>Students matriculating in 2005-06</td>
<td>27,360.00</td>
<td>13,680.00</td>
<td>1,140.00</td>
</tr>
<tr>
<td>Students matriculating in 2004-05</td>
<td>25,600.00</td>
<td>12,800.00</td>
<td>1,067.00</td>
</tr>
<tr>
<td>After 5 years from the matriculation year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>students</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ 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 activities²</td>
<td>$49.00</td>
<td>$49.00</td>
<td>$98.00</td>
</tr>
<tr>
<td>Health service</td>
<td>214.00</td>
<td>214.00</td>
<td>428.00</td>
</tr>
<tr>
<td><strong>Total Fees</strong></td>
<td><strong>$263.00</strong></td>
<td><strong>$263.00</strong></td>
<td><strong>$526.00</strong></td>
</tr>
</tbody>
</table>

²Fifth-year students in professional degree programs and students working toward a second bachelor's degree pay a reduced student activities fee of $6.85
per semester, which covers the Student Association, Student Organizations Activity, University Court, and Honor Council portions of the activity fee.

<table>
<thead>
<tr>
<th>Orientation Week Fees</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-Week Room and Board–Freshman</td>
<td>$260.00</td>
</tr>
<tr>
<td>O-Week Activity Fee–Freshman</td>
<td>200.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room and Board</th>
<th>Annual</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room</td>
<td>$7,150.00</td>
<td>$3,575.00</td>
</tr>
<tr>
<td>Board</td>
<td>3,600.00</td>
<td>1,800.00</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>144.00</td>
<td>72.00</td>
</tr>
<tr>
<td>Off-Campus Board–Plan–’08</td>
<td>1,380.00</td>
<td>690.00</td>
</tr>
<tr>
<td>Off-Campus Board–Plan–’09</td>
<td>1,040.00</td>
<td>520.00</td>
</tr>
</tbody>
</table>

**Refund of Tuition and Fees**

Students who withdraw during the first 2 weeks of the semester are not charged tuition or fees for that semester. Students who withdraw during the 3rd 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 9th week, after which no refund is made. Federal regulations require a refund calculation for all students receiving Title IV funds. The length of time during which a refund must be calculated is up to 60 percent of the payment period (semester). If a student withdraws on or before the 60 percent point in time, a portion of the Title IV funds awarded to a student (Pell Grant, Federal SEOG, Federal Perkins Loan, Federal Subsidized and Unsubsidized loans, Federal PLUS Loans, 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 2nd week of classes in a semester, fees or special charges 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 $300 enrollment deposit they paid as incoming students.

Students who receive approval to enroll with a course load of fewer than 12 hours and do so within the first 2 weeks of the semester will be charged at the per hour rate plus a part-time registration fee. There are no refunds for part-time enrollment after the first 2 weeks of the semester.

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 dean of undergraduates. Exceptions are granted by the dean of undergraduates only under extraordinary circumstances.

**Living Expenses**

Residence fees cover dining hall costs and residence maintenance. They are established each year as needs dictate. For 2008–09, the annual room and board charge for residence in a residential college is $10,750. This charge includes the room and all the meals eaten during the year.

**Housing**—About 71 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 the Dean of Undergraduates, and information on off-campus housing is available from 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 electronically by accessing their Esther account online. To reserve their space, current students must electronically sign a housing agreement by the date established in their respective colleges but no later than April 15. New students must make a $100 deposit before May 1. These nonrefundable deposits are applied to the following semester’s room and board charges.

**Board**—Meals are served cafeteria-style. The colleges provide 3 meals per day Monday through Friday, continental breakfast and brunch on Saturday, and brunch and dinner on Sunday. Meals are not served during the Thanksgiving holiday, at the midyear break, or over the spring midterm recess. More information is available from the residential dining website (food.rice.edu).

**Payments and Refunds**—Students may pay their residence fee in installments. The exact amounts and due dates appear on the statement mailed from the Cashier’s Office. 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 24–26).

<table>
<thead>
<tr>
<th>Charge</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preceptorship per semester</td>
<td>$235</td>
</tr>
<tr>
<td>Internship per semester</td>
<td>$235</td>
</tr>
<tr>
<td>Study abroad fee per semester</td>
<td>$300</td>
</tr>
<tr>
<td>Late payment penalty</td>
<td>$140</td>
</tr>
<tr>
<td>Undergraduate application fee</td>
<td>$60</td>
</tr>
<tr>
<td>Part-time registration fee</td>
<td>$130</td>
</tr>
<tr>
<td>Orientation Week room and board (coordinators)</td>
<td>$185</td>
</tr>
<tr>
<td>Late registration fee 1</td>
<td>$75</td>
</tr>
<tr>
<td>Late registration fee 2</td>
<td>$125</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>$120</td>
</tr>
<tr>
<td>Diploma fee: parchment</td>
<td>$50</td>
</tr>
<tr>
<td>Diploma fee: facsimile</td>
<td>$20</td>
</tr>
<tr>
<td>Diploma mailing fee: domestic</td>
<td>$30</td>
</tr>
<tr>
<td>Diploma mailing fee: air mail</td>
<td>$50</td>
</tr>
<tr>
<td>Transcript fee</td>
<td>$5</td>
</tr>
<tr>
<td>Replacement ID</td>
<td>$10</td>
</tr>
<tr>
<td>Readmission fee after withdrawal for nonpayment</td>
<td>$300</td>
</tr>
</tbody>
</table>

**Health Insurance**

All Rice students must have health insurance. Students may purchase insurance
for the 2008–09 school year through the university program developed for Rice students at a yearly premium of $1,732. Coverage is effective from 12:01 AM, August 15, 2008, until 12:01 AM, August 15, 2009. Dependent coverage also is available. A description of the policy, application form, and waiver form can be found on the Web at studenthealthinsurance.rice.edu. Students 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 $230 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**

Students in arrears on their financial obligation to Rice as of the last day to add courses for any semester may be withdrawn. 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 withdrawn 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. The charge of $5 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 also are 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 its 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). The FAFSA school code for Rice is 003604. Student and parent income tax document, including W-2 forms, are required to be submitted to The College Board using Institutional Documentation (IDOC) Service.

The university determines need for continuing students by having them complete the FAFSA and the PROFILE; continuing students also submit student and parent income tax and W-2 forms to The College Board.

“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 after their financial aid files are complete. The Office of Financial Aid 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 March 1
- Free Application for Federal Student Aid (FAFSA), priority date March 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
- CSS PROFILE, 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 CSS PROFILE, file the FAFSA, and submit parent and student tax documents 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 Scholarships**—Merit Scholarships are offered through the Office of Admission 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:
• **Federal 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.

• **Federal 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.

• **Private Education Loans**—These nonfederal loans are available to students attending school on at least a half-time basis. Eligibility is not based on financial need. These are credit-based loans and may require a co-signer.

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 Financial Aid.

**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 either the Federal Work-Study Program or the Rice University Work Program. Students interested in employment should access the Office of Financial Aid webpage at www.financialaid.rice.edu.

**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 4 installments. 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 private educational loans.

**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 8 semesters, the student may apply for federal/state/private aid for an additional 2 semesters. (Architecture students may apply for Rice sponsored aid for 2 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 toward the number of semesters aid is available.

**Loan Counseling**

Students who are recipients of federal student loans will be required to complete online loan entrance counseling before funds will be credited to student accounts. Students also will be required to complete online exit counseling at the completion of a program of study at Rice. Failure to complete online loan exit counseling will result in a transcript hold.
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 was enrolled for only 1 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 1 semester of financial aid probation may submit an appeal in writing to Student Financial Services for a 2nd term of financial aid probation. If during that 2nd 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 1 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 the Office of Financial Aid 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 the Office of Financial Aid for information about “Return of Title IV Funds” policies and procedures.

Honor Societies

Honor societies at Rice include the following:

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

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

**Pi Delta Phi**—organized to interest French students in competing for high standing in scholarship (Theta chapter at Rice: May 1930)
Society of Sigma Xi—for the promotion of research in science (Beta of Texas chapter at Rice: March 23, 1938)

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

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

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

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

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

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

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

Chi Epsilon—the Civil Engineering Honor Society. It serves to recognize students of high scholarship, character, practicality, and sociability. Students are inducted into the society once or twice annually and are selected from the pool of upper division level civil engineering students. (Rice chapter: 1995)

UNDERGRADUATE STUDENT LIFE

Residential Colleges

All undergraduate students at Rice, whether they live on campus or not, are members of 1 of 9 residential colleges. All colleges are coeducational.

Each college has faculty masters who live in a house next to the college. Reporting to the dean of undergraduates, 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 advisors 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 also may 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 225 students from all classes and all academic disciplines.

At present, Rice has room in its on-campus residential colleges for about 71 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 all-you-can-eat meals with the purchase of the meal plan. All students living on campus must purchase a meal plan. It is recommended that students living off-campus also purchase a meal plan. Its other services include:

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

For more information on room and board, see pages 48–50.

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 dean of undergraduates 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, 2 vice presidents, the secretary, the treasurer, the 9 college presidents, and 9 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 dean of undergraduates. 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 2 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, 7 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 4 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 admission 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 www.ruf.rice.edu/~forensic/eventinfo/.
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, graduate study has expanded to encompass the schools of architecture, engineering, humanities, management, music, natural sciences, and social sciences, as well as interdepartmental programs. Rice now enrolls approximately 2,100 graduate students and offers advanced degrees in 30 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 67–68 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 graduate.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 and Postdoctoral Studies. For the Shepherd School of Music, the equivalent to the baccalaureate degree will be determined by its 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 online application information. The Graduate Studies website, graduate.rice.edu, also has links to the graduate departments’ websites. The Graduate Degree and Department Information Chart (pages 63-67) lists department chairs with department phone/fax numbers and email 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. The ETS school code for Rice is 6609; in addition, applicants should send their test scores directly to the admitting department. See individual departmental listings for specific requirement information.
To make sure scores are available when admission decisions normally are 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 also may 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 90 on the iBT TOEFL, 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 school code for Rice is 6609. 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. Departments must send a justification letter for waiving the TOEFL test requirement to the Office of International Students and Scholars.

Graduate Degrees

Research Degrees

Research degrees are offered in 6 of the 8 schools at Rice (the School of Management offers professional degrees only), with some degrees combining studies in more than 1 school. For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 69–70). Specific requirements for advanced research degrees in each field of study appear in the appropriate departmental pages (pages 84–294). Students seeking additional material should contact the appropriate department (see Graduate Degree and Department Information Chart on pages 63–67).

PhD Programs—The PhD degree is awarded for original studies in the departments listed in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (page 67–68); 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 70–72.) The residency requirement for the doctorate is 4 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 (page 67–68), 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 3 or 4 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 1 semester of full-time study.

Students also may 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 graduate study
• At least 15 hours of course work must be at or above the 500 level
• All courses must be in the relevant field

In certain departments, students may receive a master's degree (called an *Automatic Master's*) when they achieve candidacy for the doctoral degree. Students seeking a master's degree in this manner must submit a petition for the degree, signed by their department chair, to the Office of Graduate and Postdoctoral Studies by February 1 of the year in which the degree is to be awarded. (See also Candidacy, Oral Examinations, and the Thesis on page 70–72.)

**Professional Degrees**

Rice University offers advanced degree programs to prepare students for positions in a number of professional fields. The professional degrees offered appear in the Graduate Degree and Interdepartmental and Cooperative Programs Charts (pages 67–68). 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. Minimum residency for all master's degrees is 1 semester of full-time study. Specific information and requirements for individual degrees appear in the Graduate Degree Chart (pages 63–67). Program information and application materials also are available from the departments (see Graduate Degree and Department Information Chart on pages 63–67). For general information on advanced degree work at Rice, see Requirements for Graduate Study (pages 69–70).

Rice undergraduate students who wish to enter a professional master's degree program should apply for admission through the normal procedures and in accordance with the normal timetables for application to such programs. While the GRE requirement may be waived in these cases, the authority for the waiver rests with the department. Departments may consider counting courses taken by the students while an undergraduate as credit toward the degree. The courses must be chosen from those that normally satisfy requirements toward the professional master's degree. No course can be used, however, simultaneously to satisfy an undergraduate and a graduate degree requirement. The department has authority to accept or reject a particular course for graduate credit. When an offer of admission is made, the department's offer letter should indicate that graduate financial aid and tuition waivers are not available to professional master's students. In addition, the department also must include in the offer letter a list of those courses taken by the student as an undergraduate that the department will accept for graduate course credit.

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 and Postdoctoral 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 and Department Chair</th>
<th>Graduate Degree Offered and Contact Information</th>
<th>Additional Options or Areas of Concentration (within majors)</th>
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</thead>
<tbody>
<tr>
<td><strong>SCHOOL OF ARCHITECTURE</strong></td>
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<tr>
<td>Lars Lerup (Dean)</td>
<td>MArch, MArch in Urban Design, DArch</td>
<td>Architecture design, urbanism, theory, and practice</td>
</tr>
<tr>
<td>John J. Casbarian (Associate Dean)</td>
<td>713-348-4044 fax: 713-348-5277 <a href="mailto:arch@rice.edu">arch@rice.edu</a></td>
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<tr>
<td></td>
<td>713-348-5152 <a href="http://www.arch.rice.edu/flash/">www.arch.rice.edu/flash/</a></td>
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<tr>
<td><strong>SUSANNE M. GLASSCOCK SCHOOL OF CONTINUING STUDIES</strong></td>
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<tr>
<td>Mary McIntire (Dean)</td>
<td>Master of Liberal Studies</td>
<td>Humanities, science, and social sciences</td>
</tr>
<tr>
<td>John W. Freeman (MLS Director)</td>
<td>713-348-4767 fax: 713-348-5213 <a href="mailto:mls@rice.edu">mls@rice.edu</a></td>
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<tr>
<td>Rebecca Sharp (Coordinator)</td>
<td><a href="http://www.mls.rice.edu">www.mls.rice.edu</a></td>
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<tr>
<td><strong>GEORGE R. BROWN SCHOOL OF ENGINEERING</strong></td>
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<tr>
<td>Bioengineering</td>
<td>MBE, MS, PhD</td>
<td>Biomedical imaging and diagnostics, cellular and biomolecular engineering, computational and theoretical bioengineering, drug delivery and biomaterials, supramolecular biophysics and bioengineering, tissue engineering and biomechanics, and metabolic engineering.</td>
</tr>
<tr>
<td>Jennifer West</td>
<td>713-348-5860 fax:713-348-5877 <a href="mailto:bioeng@rice.edu">bioeng@rice.edu</a></td>
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<td>bioe.rice.edu</td>
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<tr>
<td>Chemical and Biomolecular Engineering</td>
<td>MChE, MS, PhD</td>
<td>Catalysis and nanotechnology, thermodynamics and phase equilibria, interfacial phenomena, colloids, microemulsions, rheology and fluid mechanics, biosystems engineering, biocatalysis and metabolic engineering, cell population heterogeneity and biological pattern formation, cellular and tissue engineering, energy and sustainability, gas hydrates, enhanced oil recovery, reservoir characterization, and pollution control</td>
</tr>
<tr>
<td>Kyriacos Zygourakis</td>
<td>713-348-4902 fax:713-348-5478 <a href="http://www.rice.edu/chloe">www.rice.edu/chloe</a> <a href="mailto:chbe@rice.edu">chbe@rice.edu</a></td>
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<tr>
<td>Civil and Environmental Engineering</td>
<td>MEE, 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 engineering: 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>Pedro Alvarez</td>
<td>713-348-4949 fax: 713-348-5268 <a href="mailto:cee@rice.edu">cee@rice.edu</a></td>
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<td><a href="http://www.cee.rice.edu">www.cee.rice.edu</a></td>
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<tr>
<td>Computational and Applied Mathematics</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>Danny C. Sorensen</td>
<td>713-348-4805 fax: 713-348-5318 <a href="mailto:caam@caam.rice.edu">caam@caam.rice.edu</a> <a href="http://www.caam.rice.edu">www.caam.rice.edu</a></td>
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</tr>
<tr>
<td>Computer Science</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>Joe Warren</td>
<td>713-348-4834 fax: 713-348-5930 <a href="mailto:comp@rice.edu">comp@rice.edu</a></td>
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<td><a href="http://www.cs.rice.edu">www.cs.rice.edu</a></td>
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<tr>
<td>Electrical and Computer Engineering</td>
<td>Behnaam Aazhang</td>
<td>MEE, MS, PhD 713-348-4020 fax: 713-348-5686 <a href="mailto:ece@ece.rice.edu">ece@ece.rice.edu</a> <a href="http://www.ece.rice.edu">www.ece.rice.edu</a></td>
</tr>
<tr>
<td>Mechanical Engineering and Materials Science</td>
<td>Enrique V. Barrera</td>
<td>MME, MMS, MS, PhD 713-348-4906 fax: 713-348-5423 <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>Statistics</td>
<td>Katherine B. Ensor</td>
<td>MStat, MA, PhD 713-348-6032 fax: 713-348-5476 <a href="mailto:stat@stat.rice.edu">stat@stat.rice.edu</a> <a href="http://www.stat.rice.edu">www.stat.rice.edu</a></td>
</tr>
<tr>
<td>English</td>
<td>Helena Michie</td>
<td>PhD 713-348-4840 fax: 713-348-5991 <a href="mailto:englgrad@rice.edu">englgrad@rice.edu</a> <a href="http://www.english.rice.edu">www.english.rice.edu</a></td>
</tr>
<tr>
<td>French Studies</td>
<td>Harvey Yunis</td>
<td>MA, PhD 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>Hispanic Studies</td>
<td>José Aranda</td>
<td>MA 713-348-5451 fax: 713-348-4863 <a href="mailto:span@rice.edu">span@rice.edu</a> <a href="http://www.hispanicstudies.rice.edu">www.hispanicstudies.rice.edu</a></td>
</tr>
<tr>
<td>History</td>
<td>Martin J. Wiener</td>
<td>MA, PhD 713-348-4948 fax: 713-348-5207 <a href="mailto:hist@rice.edu">hist@rice.edu</a> history.rice.edu</td>
</tr>
<tr>
<td><strong>Linguistics</strong></td>
<td><strong>MA, PhD</strong></td>
<td><strong>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</strong></td>
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<tr>
<td>Nancy Niedzielski</td>
<td>713-348-6010 fax: 713-348-4718 <a href="mailto:ling@ruf.rice.edu">ling@ruf.rice.edu</a> <a href="http://www.linguistics.rice.edu">www.linguistics.rice.edu</a></td>
<td><strong>Specialization in medical ethics, value theory, and history of philosophy</strong></td>
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<tr>
<td><strong>Philosophy</strong></td>
<td><strong>MA, PhD</strong></td>
<td><strong>African religions, African-American religions, the Bible and beyond, Buddhism, contemplative studies, Islam, Jewish thought and philosophy, modern Christianity in thought and popular culture, mysticism, Gnosticism, esotericism, and psychology of religion</strong></td>
</tr>
<tr>
<td>Steven Crowell</td>
<td>713-348-4994 <a href="mailto:philos@rice.edu">philos@rice.edu</a> <a href="http://www.philosophy.rice.edu">www.philosophy.rice.edu</a> fax: 713-348-5847</td>
<td><strong>Concentration options: accounting, energy, entrepreneurship, finance, global business, marketing, management consulting, and mastering creativity and innovation</strong></td>
</tr>
<tr>
<td><strong>Religious Studies</strong></td>
<td><strong>PhD</strong></td>
<td><strong>Compose, choral and instrumental conducting, historical musicology, performance, and music theory</strong></td>
</tr>
<tr>
<td>Jeffrey Kripal</td>
<td>713-348-2238 fax: 713-348-5846 <a href="mailto:reli@rice.edu">reli@rice.edu</a> <a href="http://www.reli.rice.edu/">www.reli.rice.edu/</a></td>
<td><strong>Composition and selected areas of performance</strong></td>
</tr>
</tbody>
</table>

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| **Jesse H. Jones Graduate School of Management** | | |
|-------------------------------------------------|-------------------------------------------------|
| William H. Glick (Dean) | MBA MBA/Master of Engineering MBA/MD (with Baylor College of Medicine) MBA for Executives MBA for Professionals PhD ricemba@rice.edu www.jonesgs.msm.rice.edu/ Rice University Executive Education 713-348-6060 oed@rice.edu | **Concentration options: accounting, energy, entrepreneurship, finance, global business, marketing, management consulting, and mastering creativity and innovation** |
| Jeff Fleming (Associate Dean of Academic Affairs) | | |
| Sean Ferguson (Assistant Dean of Degree Programs) | | |
| D. Brent Smith (Associate Dean of Executive Education) | | |

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| **Shepherd School of Music** | | |
|--------------------------------|-------------------------------------------------|
| Robert Yekovich (Dean) | BMus/MMus, MMus, DMA 713-348-4854 fax: 713-348-5317 musi@rice.edu www.ruf.rice.edu/~musi | **Composition, choral and instrumental conducting, historical musicology, performance, and music theory** |

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| **Wiess School of Natural Sciences** | | |
|-------------------------------------|-------------------------------------------------|
| Biochemistry and Cell Biology | **MA, PhD** | **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** |
| Janet Braam | 713-348-4015 fax: 713-348-5154 bioc@rice.edu biochem.rice.edu | |
### Chemistry

Seiichi P. T. Matsuda  
MA, PhD  
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www.chem.rice.edu  
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Marine geology and geophysics; sedimentology, stratigraphy, paleoceanoagraphy, paleo-climatology, and evolution of continental margins and carbonate platforms; tectonics, nanotectonics, 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, volcanology, petrology, and high T geochemistry, hydrogeology, sediment deformation, carbon cycling, climate change, terrestrial–biosphere interactions, igneous processes, and planetary differentiation

### Ecology and Evolutionary Biology

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www.eeb.rice.edu  
Ecology, plant and insect communities, populations, diversity, mutualisms, invasive species, evolution, quantitative genetics, mate choice, speciation, molecular evolution, adaptive evolution, behavioral ecology, sociobiology, genomics, and microbial evolution

### Mathematics

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www.math.rice.edu  
Differential and algebraic geometry, ergodic theory, partial differential equations, probability and combinatorics, real analysis, complex variables, geometric and algebraic topology, mathematical physics, dynamics, ergodic theory, and Teichmüller theory

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Atomic, molecular, and optical physics; biophysics; nuclear and particle physics; condensed matter physics; nanoscale physics; surface physics; space plasma physics; solar physics; astronomy, high-energy astrophysics; and theoretical physics

### School of Social Sciences

### Anthropology

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American politics, comparative politics, and international relations
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 also has 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>Applied Physics</td>
<td>Master’s, PhD</td>
<td>Departments of physics and astronomy, chemistry, electrical and computer engineering, mechanical engineering and materials sciences, bioengineering, computational and applied mathematics, chemical and biomolecular engineering, and civil and environmental engineering; sciences that underlie important new and emerging technologies. Contact: Rice Quantum Institute, 713-348-6356 or <a href="mailto:ycreed@rice.edu">ycreed@rice.edu</a></td>
</tr>
<tr>
<td>Computational Science and Engineering</td>
<td>MA, 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, earth sciences, computer science, chemical and biomolecular engineering, electrical and computer engineering, civil and environmental engineering, and statistics. Contact: 713-348-4657 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 grades 8–12, in conjunction with BA in major field. Subjects include art, English, French, German, health science, history, Latin, life science, mathematics, physical education, physical science, physics/mathematics, science, social studies, and Spanish</td>
</tr>
<tr>
<td>Environmental Analysis and Decision Making</td>
<td>MS</td>
<td>Departments of computational and applied mathematics, statistics, civil and environmental engineering, chemistry, earth science, ecology and evolutionary biology, mechanical engineering and materials science, chemical and biomolecular 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>
</tbody>
</table>

**Education Certification**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meredith Skura</td>
<td>MAT</td>
<td>713-348-4826 Fax: 713-348-5459 <a href="mailto:educ@rice.edu">educ@rice.edu</a></td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="http://www.education.rice.edu/">www.education.rice.edu/</a></td>
</tr>
<tr>
<td>Psychology</td>
<td>MA, PhD</td>
<td>Stephan J. Motowidlo 713-348-4856 fax: 713-348-5221 <a href="mailto:psc@rice.edu">psc@rice.edu</a> <a href="http://www.ruf.rice.edu/~psyc/">www.ruf.rice.edu/~psyc/</a></td>
</tr>
<tr>
<td>Cognitive-experimental psychology and industrial-organizational/social psychology, with tracks in engineering psychology, human–computer interaction, and neuropsychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program</td>
<td>Degree(s)</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Master of Liberal Studies</td>
<td>MLS</td>
<td>Susanne M. Glasscock School of Continuing Studies/ Humanities, Sciences, and Social Sciences. Contact: 713-348-4767 or <a href="mailto:mls@rice.edu">mls@rice.edu</a></td>
</tr>
<tr>
<td>Materials Science and Engineering</td>
<td>MS, PhD</td>
<td>Departments of chemistry, electrical and computer engineering, mechanical engineering and materials science, chemical and biomolecular engineering, and physics and astronomy. 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 of 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>
<tr>
<td>Study of Women, Gender, and Sexuality</td>
<td>Graduate Certificate</td>
<td>Departments in anthropology, English, French, history, linguistics, philosophy, psychology, religious studies, and sociology</td>
</tr>
<tr>
<td>Subsurface Geoscience</td>
<td>MS</td>
<td>Departments in earth science, chemistry, statistics, 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>

**Cooperative Programs**

- **Joint Program in Computational Biology**
  - Training opportunities for PhD students
  - Research in a lab setting, seminars, and workshops and access to advanced resources of W.M. Keck Center for Computational Biology (fellowships available); with Baylor College of Medicine, the University of Texas Health Science Center, Houston, MD Anderson Cancer Center, the University of Texas Medical Branch, and the University of Houston. Contact: 713-348-4752 or bioc@rice.edu

- **Joint Programs with Medical Colleges**
  - MD/PhD, MD/MA, MD/MS
  - Combined MD and advanced research degree for research careers in medicine; with Baylor College of Medicine, and the University of Texas Health Science Center. Contact: 713-348-5869 or bioeng@rice.edu
ACADEMIC REGULATIONS

Final Examination In Graduate Courses

Graduate courses, especially those with significant undergraduate student enrollment, should follow the guidelines for undergraduate courses (page 31) regarding scheduling of projects, papers, and finals during the last weeks of classes, reading periods, and final exam periods. However, instructors have the discretion to modify those guidelines as appropriate for their specific courses. Such modifications and the final schedule must be made clear at the beginning of the semester.

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 1 full fall and/or spring semester in full-time study in a graduate program at Rice University. PhD students must complete at least 4 full fall and/or spring 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. Students wishing to enroll for less than full time or wishing to drop below full time during the semester must receive written permission from their academic department, and that written approval must be forwarded to the Office of Graduate and Postdoctoral Studies.

**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 10 years of initial enrollment in the degree program. All masters students are required to complete their program, including thesis defense, within 5 years of initial enrollment. In both cases, students have a limit of 6 additional months from the date of defense to submit their theses to the Office of Graduate and Postdoctoral Studies. These time boundaries include any period in which the student was not enrolled or enrolled part time, for whatever reason. Failure to meet any university time to degree deadline may result in the student not being able to continue in their degree program.

**Time to Candidacy**—PhD students must be approved for candidacy before the beginning of the 9th semester of their enrollment at Rice. Masters students must be approved for candidacy before the beginning of the 5th semester of their enrollment at Rice.

**Time to Defense**—PhD students must defend their theses before the end of the 16th semester of their enrollment at Rice. Masters students must defend their theses before the end of the 8th semester of their enrollment at Rice.

**Time to Thesis Submission**—After candidates successfully pass the oral examination in defense of the thesis, they must submit 2 signed copies of the thesis to the Office of Graduate and Postdoctoral Studies no later than 6 months from the date of the examination.

**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 advisor or the department chair.

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

Grades—To graduate, students must achieve at least a B- (2.67) grade point average in courses counted toward the graduate degree. Some programs and departments have more stringent standards. To compute grade point averages, the credits attempted in semester hours for each course and the points for the grade earned (from A+ = 4.33 to F = 0.00) are multiplied, then the products (1 for each course) are added together, and the sum is divided by the total credits attempted. See also Dismissal (page 74).

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. Class III students cannot take courses on a satisfactory/unsatisfactory grading basis.

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 8 semesters.

Research and Scholarly Activities—Research and other scholarly activities of all students must be compliant with Rice University policies. It is recommended that students familiarize themselves with these policies before embarking on research or other scholarly activities. Particularly pertinent to students are policy 324–00 (Research Misconduct), policy 326–98 (Human Health and Safety in the Performance of Research), policy 333 (Patent and Software Policies), and policy 334 (Copyright Policy).

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 72) 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 signals 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 master's 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 dean of graduate and postdoctoral studies. In the petition sent to the dean, 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 and Postdoctoral Studies on or before November 1 for January conferral and on or before February 1 for May conferral. Students may take the final oral examination in defense of their thesis only after the dean of graduate and postdoctoral studies approves their candidacy. PhD students must be approved for candidacy before the beginning of the ninth semester of their enrollment at Rice. Master's students must be approved for candidacy before the beginning of the fifth semester of their enrollment 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 1 member must have his or her primary appointment in another department within the university. At least 3 members of the committee must meet 1 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 dean of graduate and postdoctoral studies

The composition of the thesis committee must always meet the guidelines mentioned above.

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.

**Announcement of Thesis Defense**—Oral examinations for the doctoral degree must be announced at least 2 weeks in advance. Oral examination announcements are to be submitted to the Office of Graduate and Postdoctoral Studies by entering the information into the Graduate Students Thesis Defense Announcement form at events.rice.edu/rgs/index.cfm. An automatically generated email will be sent to the Office of Research and Graduate Studies once the defense form has been submitted.

Oral examinations for the master's degree require only that public notice of the oral defense be posted on the department bulletin board 1 week in advance and a copy be sent to the Office of Graduate and Postdoctoral Studies.

**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. At least 1 copy of the thesis must be available in the departmental office not less than 2 calendar weeks prior to the date of the oral defense. The length of the oral examination and the subject matter on which the candidate is questioned are left to the judgment of the committee. The defense should be scheduled by the student after consultation with the thesis advisor, 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. Students who defend during the summer must enroll in the summer session of classes. 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. Students passing the oral examination on or before the end of the 1st 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 2nd examination. Students who fail a second time must withdraw from the university.

Students must send a copy of their approval of candidacy form, signed by the thesis committee signifying successful defense of the thesis, to the Office of Graduate and Postdoctoral Studies within 1 week after the oral examination. The original approval of candidacy form must be turned in when the thesis is submitted.

No later than 6 months from the date of the examination, candidates who successfully passed the oral examination in defense of the thesis must submit 2 signed copies of the thesis to the Office of Graduate and Postdoctoral Studies. If the thesis is not ready for final signature by the end of the 6-month period, the “pass” will be revoked and an additional oral defense will need to be scheduled. Extensions of this 6-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 and Postdoctoral Studies.

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 8th 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 and Postdoctoral 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: graduate.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 2 copies to the Office of Graduate and Postdoctoral Studies for approval. The thesis may be submitted to the Office of Graduate and Postdoctoral Studies at any time; however students must meet the deadline for the thesis submission listed in the Academic Calendar (pages vii–xiii).

**Leaves or Withdrawals**

**Leave of Absence**—A leave of absence is granted only by the Office of Graduate and Postdoctoral Studies on 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 1st 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 2 consecutive semesters. The semesters that a student is on leave do not count against the time to candidacy or the time to defense. They do, however, count against the time to degree. Students must pay a reinstatement fee of $100 on 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 6 weeks or until the appointment expires (whichever occurs first). Complete guidelines for obtaining a short term or parental leave are available at: graduate.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, page 48). Failure to register for any period without a leave of absence granted by the Office of Graduate and Postdoctoral Studies constitutes a de facto withdrawal.

The university may insist on a student's involuntary withdrawal if, in the judgement of the dean of graduate and postdoctoral 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 dean of graduate and postdoctoral studies. Accepted students must pay a readmission fee of $325.

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 and Postdoctoral Studies at least 1 month before the start of the semester in which they wish to resume their work at Rice. They also must 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, 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 2 weeks of classes, all students may change their registration without a penalty fee by adding or dropping courses with the appropriate advisor's approval. Students must obtain the instructor's permission and the advisor's approval to add a course after the 2nd week of classes. Students may not add courses after the 4th week of classes without the permission of the Office of Graduate and Postdoctoral Studies.

Students may not drop courses after the end of the 10th week of classes, except by approval of the Office of Graduate and Postdoctoral Studies (a $75 fee is assessed for courses dropped after the 10th week by non-1st-semester
students). The student’s request to drop a course must be approved by the student’s advisor and then forwarded to the dean for consideration.

Students who add or drop courses after the 2nd week but before the deadlines noted above are charged for each drop/add form submitted according to the fee schedule (see page 76). There is no refund of tuition for dropping a class after the second week, as long as the student stays enrolled in at least one other class.

**Probationary Status**

Graduate students whose cumulative grade point average or the average for the most recently completed semester (including the summer semester) fall below 2.33 are placed on probationary status; many departments may have more stringent standards. Although graduate programs may notify students in writing, probationary status applies whether or not a student has been notified. The period of probation extends to the end of the next semester in which the student is enrolled. Once students are placed on probationary status, they have one semester to improve their grades. If the next semester again results in probationary status, this leads to dismissal; students will be notified once final Grades have been received and posted to their records.

**Dismissal**

The two most common grounds for dismissal of a graduate student from a graduate program are (1) inadequate academic progress, or (2) a disciplinary violation resulting in University sanction.

As noted above, a second semester of probationary status leads to automatic dismissal. In addition, students who are not making adequate academic progress, as assessed by their graduate program or by the Office of Graduate and Postdoctoral Studies, may be dismissed. For example, students may be dismissed, without warning, for failing to pass certain departmental or university requirements, such as failing to advance to candidacy within the required time limit. In other situations, when a student is judged not to be making adequate academic progress or in other unusual circumstances, s/he must be warned in writing of the possibility of dismissal and given clear information about what must be done within a specified time period to alleviate the problem. These expectations must be reasonable and consistent with expectations held for all students similarly situated in the program. If the student does not meet the stated requirements within the time frame specified, s/he may be dismissed by the graduate program. The program will notify in writing both the student and the Office of Graduate and Postdoctoral Studies. A dismissal that takes effect during a semester must be approved by the Dean of Graduate and Postdoctoral Studies. Students may petition for a dismissal to be withdrawn as described under Petitions and Appeals.

**Non-academic Discipline**

The Code of Student Conduct applies to all Rice students and applies to conduct both on and off campus. The assistant dean of student judicial programs may sanction students, including placing students on probation or suspension or expelling students, for violating the Code of Student Conduct (or the Honor Code, where applicable to graduate students) or for other non-academic disciplinary reasons. Students on disciplinary suspension of this type (including for an Honor Code violation) may not receive their degree even if they have met all academic requirements for graduation. Students on disciplinary suspension must leave the university within 48 hours of being informed of the suspension 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 or probation, 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.

**PETITIONS AND APPEALS**

Graduate students may petition for exceptions to academic requirements, regulations, and judgments. Petitions should be handled at the lowest appropriate level. A petition regarding a departmental or school requirement, regulation, or judgment should be handled by the department or school. A petition regarding a University requirement or regulation should be submitted to the Office of Graduate and Postdoctoral Studies; that office will obtain the recommendation of the department and (when appropriate) the school and the Graduate Council with regard to such petitions.

A student is allowed only one level of appeal from a decision regarding a petition. In general, the appeal process should be resolved at the lowest level possible. When the petition is decided at a department level, the appeal should be submitted to the school. When the decision is at a school level, the appeal should be handled by the Office of Graduate and Postdoctoral Studies. When the petition is decided by the Office of Graduate and Postdoctoral Studies, the student may submit an appeal to the Provost.

A detailed procedure for petitions and appeals for graduate students is available from the Office of Graduate and Postdoctoral Studies.

**GRIEVANCES**

Grievances are different from petitions and appeals. Petitions and appeals involve exceptions to academic requirements, regulations, and judgments. A grievance is a complaint regarding inappropriate conduct by other students, faculty members, or staff. Inappropriate conduct encompasses both inappropriate personal conduct, such as sexual harassment, as well as inappropriate official conduct, such as violation of University policies. Specific policies exist to address grievances based on discrimination or sexual harassment, and these policies should be followed in situations involving these issues. Grievances against another student may be raised with the Assistant Dean of Student Judicial Programs and addressed under the Code of Student Conduct. In other cases, a student may present a grievance in writing at the lowest appropriate level, typically the department or school. If a satisfactory resolution is not obtained at that level, the student may appeal the outcome of the grievance by presenting the problem at the next administrative level, such as the school, Office of Graduate and Postdoctoral Studies, or Provost. Grievances against non-faculty staff members may also be brought to the Employee Relations director in Rice’s Human Resources office. Students may seek guidance on any of these procedures through discussions with the Office of Graduate and Postdoctoral Studies.

**PROBLEM RESOLUTION**

During the course of graduate studies, problems may arise in the relationship between a graduate student and his/her department or advisor that do not fall under the category of Grievances, described above. Students should attempt to resolve such problems by informing the appropriate faculty members and working together to resolve the problem. When attempts to resolve the problem informally are unsuccessful, the following problem-resolution procedure should be used:
1. The student should submit the problem in writing to the departmental chair, who will then attempt to resolve it.

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

3. If the student remains unsatisfied, the problem should be referred to a standing subcommittee of the Graduate Council, composed of three faculty members (representing diverse disciplines within the university) and a graduate student, with the Dean of Graduate and Postdoctoral Studies as an ex-officio member. A written report of proceedings at stage 2 should be presented to the Chair of Graduate Council for forwarding to the subcommittee, along with all other written materials generated during the investigation. The decision of this subcommittee is considered final.

Detailed procedures for grievances and problem resolution for graduate students is available at the Office of Graduate and Postdoctoral Studies.

TUITION, FEES, AND EXPENSES

The tuition and fees for graduate students in this section are for the 2008–09 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>Tuition</th>
<th>Annual</th>
<th>Semester</th>
<th>Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture, Shepherd School, and Professional Masters in Natural Science and Engineering</td>
<td>$25,500.00</td>
<td>$12,750.00</td>
<td>$1,417.00</td>
</tr>
<tr>
<td>All others, entering Fall 08</td>
<td>29,960.00</td>
<td>14,980.00</td>
<td>1,665.00</td>
</tr>
<tr>
<td>All others, Continuing</td>
<td>29,960.00</td>
<td>14,980.00</td>
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Required Fees | Annual | Semester |
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<td>Graduate Student Association</td>
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<td>Student Organization Fund</td>
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<td>Health Service Fee (no spouses)</td>
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<tr>
<td>Info. Tech Fee–Graduate Students</td>
<td>125.00</td>
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<tr>
<td>Jones School Student Activity Fee*</td>
<td>120.00</td>
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<tr>
<td>Jones School Materials Fee*</td>
<td>1,750.00</td>
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Medical Insurance Premium Student Only** 1,732.00
Master of Liberal Studies, GSA Fee 10.00
Master of Liberal Studies, Student Activity Fee 41.00

* Only for Jones School Students
** Students are billed for the Medical Insurance Student Only Plan annually every fall and have the option at that time to waive the insurance if covered under another medical plan or submit an application for any of the other plan options at the following site: www.studenthealthinsurance.rice.edu.

Away Status—Graduate students pursuing their studies outside of the Houston area (graduate 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 ($62.50/semester).

Reduced Tuition—After 6 semesters of full-time study in 1 degree program (excluding the summer semesters), continuing students are eligible for a reduced tuition rate. A semester of full-time study is defined as a fall or spring semester in which at least 9 hours of credit are earned. The reduced rate, like standard rate, varies by department/program. For architecture, Shepherd School, and professional masters students, reduced rate is $1,417 per year ($708.50 per semester). For all other graduate students, the rate is $1,665 per year ($832.50 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.

Health Insurance—All students, full time or part time—including those on away status—must carry health insurance (see pages 10–12).

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 1st week of January. Past these deadlines, a late payment penalty of $140 will be assessed.

Special Fees

Audit Fee:
- Rice Alumni (per course) ............................................. $320.00
- All others (per course) ................................................ 625.00

Late registration fee I ..................................................... 75.00
Late registration fee II .................................................... 125.00
Part-time registration fee ................................................... 130.00
Class 3 registration fee ..................................................... 130.00
Late application fee (Class 3) ........................................... 100.00
Late payment penalty ....................................................... 140.00
Deferred payment plan late fee ......................................... 35.00
Returned check fee ......................................................... 30.00

Late course change fee
Adds:
- Week 1–2 ................................................................. Free
- Week 3–4 ............................................................... 25.00
- Week 5 and after ..................................................... 75.00

Drops:
- Weeks 1–4 ............................................................... Free
- Weeks 5–10 ........................................................... 25.00
- Week 11 and after ................................................... 75.00
Diploma fee: sheepskin ........................................ 120.00
Diploma fee: parchment ........................................ 50.00
Diploma mailing fee: domestic .................................. 30.00
Diploma mailing fee: air mail ..................................... 50.00
Diploma fee: facsimile ............................................ 20.00
Transcript fee .......................................................... 5.00
Letter of standing ..................................................... 5.00
College withdrawal–suspension ................................... 100.00
College withdrawal–breaking of lease ......................... 700.00
Intramural fees ........................................................ 20.00
Readmission fee: graduate students only ...................... 325.00
Readmission fee: after withdrawal for non-payment ........ 300.00
Reinstatement fee: graduate students only .................... 100.00
Reinstatement fee: undergrads per year over 2 years ....... 50.00
Replacement ID: faculty, staff, and students ................. 10.00
ID: Dependents ......................................................... 5.00
Undergraduate application fee ...................................... 60.00
Graduate application fee ............................................ 40.00
Jones School application fee–all MBA programs ............ 100.00
Jones School application fee–all EMBA programs .......... 100.00

For more information, see Refund of Tuition and Fees (pages 48).

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 9-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 2nd-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.

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

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

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

**Loans and Work-Study Financial Aid**

In addition to fellowships, scholarships, and assistantships, the Office of Financial Aid offers assistance in the form of loans. Interested students must file a Free Application for Federal Student Aid (FAFSA). If selected for federal verification, students may also be required to submit copies of income tax returns and W-2’s. The priority deadline to apply is May 15. (Loan assistance through Rice is not available to Master of Liberal Studies students.)

To be eligible to apply for loans, 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.

**Federal 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 and PLUS loans are available to all students. Loan eligibility is subject to annual and lifetime borrowing limits; PLUS loans require a satisfactory credit check.

**Loan Counseling**—Students who are recipients of federal student loans will be required to complete online loan entrance counseling before funds will be credited to student accounts. Students also will be required to complete online exit counseling at the completion of a program of study at Rice. Failure to complete online exit counseling will result in a transcript hold.

**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; the 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. Guidelines for the program are:

- Individual loans are made for an amount not to exceed $2,000.
- 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 dean of graduate and postdoctoral 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 3 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 private educational loans if they are registered during the summer term.

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 also are 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 the Office of Financial Aid 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

Rice Graduate Apartments is a garden style complex nestled on 2.7 acres and located just north of campus. The community features include quick and easy access to campus, attractive landscaping, and good lighting in all common areas designed to enhance the security and aesthetics of pedestrian, bike, auto paths, parking, and recreational areas. Electronically controlled gates for pedestrian and vehicular paths are provided. Handicap-accessible units are available to students with disabilities. A shuttle bus travels back and forth between the apartments and campus.

There are 112 units, totaling 222 beds, in 1-bedroom, 2-bedroom, 4-bedroom,
and efficiency apartment configurations. The complex is designed with a centrally located area for social activities, a laundry room on each floor, a study room, a computer lab, 2 enclosed bike rack rooms, two courtyards, and an onsite RUPD substation. Each apartment, except the efficiencies, offers a living room and fully equipped kitchen. All units are furnished with a full-size bed, desk, chair, dresser, nightstand, and two bar stools. In addition, each unit includes free basic cable TV, water, and a network drop for a personal computer. The apartment management team to assist the students includes community manager, assistant manager, coordinator, 6 resident assistants, lead maintenance, assistant maintenance, and housekeeping. Housing is assigned on a lottery system. Call 713-348-GRAD (4723) for further information.

The Morningside Square Apartments are 2-story 1950s vintage units located in a quiet neighborhood adjacent to Rice Village. The community is a short walking distance to the campus, restaurants, and shopping areas. The 23-unit community offers 1-bedroom, 2-bedroom, and 3-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 713-348-4723 for further information.

The Rice Village Apartments will be located on Shakespeare Street at the intersection of Morningside Drive, 1 block from Rice University and adjacent to the Rice Village. The proposed 4-story residential building will house 238 student beds, consisting of 1-bedrooms, 2-bedrooms, and 3-bedrooms in 138 units. The design protects important green space and trees in this attractive neighborhood. Call 713-348-4723 for further information.

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 the Rice Counseling Center (see pages 10–12). 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. Students may purchase insurance through the university or though an outside source. Rice’s group coverage for the 2008–09 academic year is effective from 12:01 AM, August 15, 2008, until 12:01 AM August 15, 2009. Dependent coverage also is available. A description of the policy and the application form can be found on the Web at 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 dean of graduate and postdoctoral studies. 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 dean of graduate and postdoctoral 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 and Postdoctoral Studies. Official transcripts from all colleges and universities the student has attended should be mailed directly by the institutions to the Office of Graduate and Postdoctoral Studies. Students who were previously Class III students must complete a new application (without transcripts) for each such semester. All application materials are due by the workday closest to August 1 for fall semester courses and December 1 for spring semester courses. Late applications are not considered after classes have begun. Individuals applying as Class III students for the summer term should apply to the Summer School for College Students (see pages 40).

Tuition and Fees for Class III

The tuition for 2008–09 is $1,665 per semester hour, not to exceed $14,980, plus a $130 registration fee and a $62.50 InfoTech fee each semester. All fees are payable prior to registration. Students failing to submit their applications by the deadline must pay a late application fee of $100, and students registering after the 2nd week of class must pay a $125 late registration fee and also may 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 3rd week of class. In that case, the tuition (less $30 of the registration fee) will be refunded. If a Class III student withdraws, drops, or adds classes, the same rules regarding refunds and applicable fees apply as for degree seeking graduate students. There is no refund for dropping a class after the 2nd week, as long as the student stays enrolled in at least one other class. Pro-rated refunds for withdrawals are according to the deadlines listed on the academic calendar. Please see page 40 for information pertaining to summer school.
Departments and Interdisciplinary Programs
The Air Force Reserve Officer Training Corps (ROTC) program prepares men and women of character, commitment, and courage to assume leadership positions as commissioned officers in the active duty United States Air Force. On completion of the curriculum, students will have a thorough understanding of the core values, leadership, teamwork, and other requirements to be an effective officer in the world's greatest Air Force. 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 or on-line at www.uh.edu/afrotc.

All courses and physical training sessions take place at the University of Houston. Flight orientation occurs at airports in the Houston metro area.

**Course Credit**

ROTC classes may be taken for elective credit toward any degree plan at the University of Houston. 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 4-year ROTC program and is taken during the freshman and sophomore years. This program allows the student to experience Air Force ROTC without obligation (unless the student is on an Air Force ROTC scholarship).

Each semester of the GMC consists of one classroom hour of instruction as well as Leadership Laboratory each week.

During the first 2 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 4 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 4-year program.

As a junior, the student will study the core values, leadership, teamwork, and management tools required to become an effective Air Force.

During the senior year, students study the national security policy process and regional and cultural studies, and complete final requirements for commissioning as second lieutenants.

Enrollment in the POC is open to graduate students if they have 4 semesters of school remaining. Each semester of the POC consists of 3 classroom hours of instruction as well as Leadership Laboratory each week.
LEADERSHIP LABORATORY

As an Air Force ROTC cadet, each student is required to attend an additional 2-hour class known as Leadership Laboratory.

Although not part of the academic class requirement, it is an essential element of officer training. Leadership Laboratory is an intensive military training program in which students gain invaluable leadership and managerial experience while learning about the Air Force way of life. Students have numerous opportunities to hear guest speakers and panel discussions, participate in field trips, and experience practical leadership exercises.

AFROTC SCHOLARSHIP OPPORTUNITIES

Air Force ROTC offers various scholarship opportunities for students at the University of Houston:

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 $900 per year for books or $9,000 per year plus $900 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 covers full tuition per year and $900 for books. Recent majors that qualified for express scholarships included electrical engineering, environmental engineering, computer science, and strategic foreign languages. The processing of the scholarship award is completed at the local detachment.

STIPEND

All AFROTC scholarship recipients and POC cadets receive a nontaxable monthly stipend. The annual stipend amount ranges from $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 4 weeks of field training (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 leadership training, physical conditioning and academics assesses the cadet's potential to be an Air Force officer.

Cadets also receive survival and firearms training and career information. Cadets receive travel pay and daily pay for FT.

FLIGHT ORIENTATION PROGRAM

All cadets can volunteer to participate in a joint Air Force ROTC/Civil Air Patrol flight orientation program. This consists of 8 flights, 4 in the front seat of a small passenger aircraft and 4 additional flights in the back seat as an observer. In addition, an abbreviated flying ground school course is taught in the ROTC classrooms using FAA textbooks. The flight orientation and ground school course are both free for all cadets.
Physical Fitness Training
Cadets meet twice per week at 0600 at the University of Houston Alumni Center to perform physical fitness training. The training is mandatory and emphasizes push-ups, sit-ups, and running in order to pass the USAF physical fitness test.

Professional Development Training (PDT)
Cadets are eligible to compete to attend PDT during the summer months. PDT consists of several programs, including:

- Tours of nearby active duty Air Force bases
- Soaring and free-fall parachuting at the United States Air Force Academy (USAFA)
- Cultural and Foreign Language Immersion
- Hands-on research at Air Force laboratories
- Shadowing a Air Force officer in Operation Air Force
- Internships at NASA and other government organizations

Cadets receive travel pay and daily pay for the majority of these programs.
For more information contact the Unit Admissions Officer at 713-743-4932/3703 or visit the University of Houston Air Force website at www.uh.edu/afrotc.

Summary
During this time of war, our mission of producing Air Force second lieutenants of character, commitment, and courage is more important than ever.

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

The School of Humanities

Director and Advisor
Caroline Quenemoen

Professors
James D. Faubion
Michael Maas
Susan Keech McIntosh
Donald Ray Morrison
Paula Sanders
Harvey E. Yunis

Associate Professors
David Cook
Eva Haverkamp
Matthias Henze
Hilary S. Mackie
Scott McGill
Carol E. Quillen

Assistant Professor
Caroline Quenemoen

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. Our 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 1 course from 3 of the 5 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 1 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 also must fulfill a comparative requirement by taking either 1 course that, in and of itself, treats 2 different cultural traditions (designated “Comparative”) or 2 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 5 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 30 semester hours (10 courses). Students 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 2007 and spring 2008, please visit the AMC website at amc.rice.edu.

### Graeco-Roman Civilization

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ANTH 321</td>
<td>Text as Property, Property as Text: Across the Ages</td>
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<td>ANTH 325</td>
<td>Sex, Self, and Society in Ancient Greece</td>
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<tr>
<td>ANTH 363</td>
<td>Early Civilizations</td>
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<td>CLAS 101</td>
<td>Socrates: The Man and His Philosophy</td>
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<tr>
<td>CLAS 107</td>
<td>Greek Civilization and Its Legacy</td>
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<td>CLAS 108</td>
<td>Roman Civilization and Its Legacy</td>
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<td>CLAS 209</td>
<td>Greek and Roman Drama</td>
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<td>CLAS 220</td>
<td>The Novel in Classical Antiquity</td>
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<td>CLAS 225</td>
<td>Women in Greece and Rome</td>
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<tr>
<td>CLAS 235</td>
<td>Classical Mythology: Interpretation, Origins, and Influence</td>
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<td>CLAS 311</td>
<td>Text as Property, Property as Text: Across the Ages</td>
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<td>Greek Art and Architecture</td>
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<td>CLAS 316</td>
<td>Democracy and Political Theory in Ancient Greece</td>
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<td>CLAS 318</td>
<td>The Invention of Paganism in the Roman Empire</td>
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<td>CLAS 320</td>
<td>The Age of Augustus</td>
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<td>CLAS 336</td>
<td>The Origin of the Languages of Europe</td>
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<td>Epic and Novel</td>
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<td>ENGL 335</td>
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<td>Socrates: The Man and His Philosophy</td>
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<td>FSEM 151</td>
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<td>Introduction to Ancient Greek I</td>
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<td>GREE 202</td>
<td>Intermediate Greek II: Prose</td>
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<td>GREE 301</td>
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<td>Art as Civilization</td>
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<td>HART 218</td>
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<th>Course Title</th>
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<tr>
<td>HART 219</td>
<td>Independent Study: Ancient Art</td>
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<td>HART 228</td>
<td>Special Topics: Christian, Byzantine, and Islamic Art</td>
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<td>HART 229</td>
<td>Independent Study: Christian, Byzantine, and Islamic Art</td>
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<td>HART 312</td>
<td>Greek Art and Architecture</td>
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<td>HART 315</td>
<td>Roman Art and Architecture</td>
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<td>HART 320</td>
<td>The Age of Augustus</td>
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<td>HART 417</td>
<td>Buried Cities: The Art and Architecture of Akrotiri, Pompeii, and Herculaneum</td>
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<tr>
<td>HART 428</td>
<td>Special Topics: Early Christian, Byzantine, and Islamic Art</td>
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<td>HIST 113</td>
<td>God, Time, and History</td>
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<td>HIST 151</td>
<td>The Hero and His Companion from Gilgamesh to Spiderman</td>
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<td>HIST 200</td>
<td>Origins of Western Civilizations: Ancient Empires</td>
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<td>HIST 202</td>
<td>Introduction to Medieval Civilization: The Early Middle Ages</td>
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<td>HIST 223</td>
<td>Empires and Communities in the Middle Ages</td>
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<td>HIST 257</td>
<td>Jews and Christians in Medieval Europe</td>
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<td>HIST 262</td>
<td>Rome: City and Empire</td>
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<td>HIST 307</td>
<td>Imperial Rome from Caesar to Diocletian</td>
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<td>HIST 308</td>
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<td>HIST 316</td>
<td>The Invention of Paganism in the Roman Empire</td>
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<td>HIST 357</td>
<td>Jews and Christians in Medieval Europe</td>
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<td>HIST 358</td>
<td>European Intellectual History from Augustine to Descartes</td>
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<td>HIST 382</td>
<td>Classical Islamic Cultures</td>
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HIST 437 Christians and Jews in the Medieval Islamic World
HIST 438 Women and Gender in the Medieval Islamic Societies
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: Literature of Exile in the Roman Tradition
LATI 302 Advanced Latin: Roman Epic
LATI 303 Advanced Latin: Plautus and Terence
LATI 311 Latin Pastoral Poetry
LATI 312 Advanced Latin: Ovid
LATI 313 Cicero and Catullus: Literature and Society in the Roman Republic
MDST 101 Elementary Latin I
MDST 102 Elementary Latin II
MDST 202 Introduction to Medieval Civilization: The Early Middle Ages
MDST 211 Intermediate Latin I: Prose
MDST 212 Intermediate Latin II
MDST 223 Empires and Communities in the Middle Ages
MDST 257 Jews and Christians in Medieval Europe
MDST 308 The World of Late Antiquity
MDST 357 Jews and Christians in Medieval Europe
MDST 358 European Intellectual History from Augustine to Descartes
MDST 382 Classical Islamic Cultures
MDST 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in the Medieval Islamic Societies
MDST 460 Advanced Seminar in Ancient History
RELI 123 God, Time, and History
RELI 125 Introduction to Biblical Hebrew I
RELI 126 Introduction to Biblical Hebrew II
RELI 127 Intermediate Biblical Hebrew I
RELI 128 Intermediate Biblical Hebrew II
RELI 209 Introduction to Judaism
RELI 350 Sacred Scriptures in Monotheistic Faiths
RELI 383 The Dead Sea Scrolls
WGST 225 Women in Greece and Rome
WGST 332 Sex, Self, and Society in Ancient Greece
WGST 455 Women and Gender in the Medieval Islamic Societies

**Islamic Civilization**

ASIA 221 The Life of the Prophet Muhammad
ASIA 441 Popular Religion in the Middle East
HIST 382 Classical Islamic Cultures
HIST 437 Christians and Jews in the Medieval Islamic World
HIST 438 Women and Gender in the Medieval Islamic Societies
MDST 382 Classical Islamic Cultures
MDST 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in the Medieval Islamic Societies
RELI 141 Introduction to Islam
RELI 221 The Life of the Prophet Muhammad
RELI 223 Qur'an and Commentary
RELI 350 Sacred Scriptures in Monotheistic Faiths
WGST 455 Women and Gender in the Medieval Islamic Societies

**Jewish Civilization**

HIST 113 God, Time, and History
HUMA 113 God, Time, and History
RELI 122 The Bible and Its Interpreters
RELI 123 God, Time, and History
RELI 125 Introduction to Biblical Hebrew I
RELI 126 Introduction to Biblical Hebrew II
RELI 127 Intermediate Biblical Hebrew I
RELI 128 Intermediate Biblical Hebrew II
RELI 209 Introduction to Judaism
RELI 210 Ethics in Judaism
RELI 350 Sacred Scriptures in Monotheistic Faiths
RELI 383 The Dead Sea Scrolls

**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 I
RELI 128 Intermediate Biblical Hebrew II
REL 223 Qur’an and Commentary
REL 243 The Book of Genesis
REL 282 Introduction to Christianity
REL 350 Sacred Scriptures in Monotheistic Faiths
REL 381 The Messiah
REL 383 The Dead Sea Scrolls
REL 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
ANTH 321 Text as Property, Property as Text: Across the Ages
ANTH 363 Early Civilizations
CLAS 311 Text as Property, Property as Text: Across the Ages
FSEM 151 The Hero and His Companion from Gilgamesh to Sam Spade
HART 101 Introduction to the History of Western Art: Prehistoric to Gothic
HIST 113 God, Time, and History
HIST 151 The Hero and His Companion from Gilgamesh to Spiderman
HIST 200 Origins of Western Civilizations: Ancient Empires
HIST 308 The World of Late Antiquity
HIST 358 European Intellectual History from Augustine to Descartes

HUMA 113 God, Time, and History
MDST 308 The World of Late Antiquity
MDST 358 European Intellectual History from Augustine to Descartes
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
 RELI 123 God, Time, and History

Comparative
CLAS 209 Greek and Roman Drama
CLAS 225 Women in Greece and Rome
CLAS 336 The Origin of the Languages of Europe
CLAS 337 Epic and Novel
ENGL 335 Epic and Novel
HIST 357 Jews and Christians in Medieval Europe
HIST 437 Christians and Jews in the Medieval Islamic World
HIST 438 Women and Gender in the Medieval Islamic Societies
MDST 357 Jews and Christians in Medieval Europe
MDST 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in the Medieval Islamic Societies
PHIL 501 Seminar in Ancient and Medieval Philosophy
WGST 225 Women in Greece and Rome
WGST 455 Women and Gender in the Medieval Islamic Societies
Anthropology

The School of Social Sciences

Chair
Eugenia Georges

Professors
James D. Faubion
Susan Keech McIntosh
Stephen A. Tyler

Professors Emeriti
George E. Marcus
Roderick J. McIntosh
Julie M. Taylor

Assistant Professors
Tarek Elhaik
Jeffrey B. Fleisher
Amy Ninetto
Elizabeth F. Vann

Adjunct Professors
George E. Marcus
Patricia Seed

Adjunct Associate Professor
Deepa Reddy

Degrees Offered: BA, MA, PhD

The major in anthropology has three areas of concentration: cultural studies of science, technology, and medicine; culture, language, and media; and archaeology. The focus in the first two areas 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 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 more fields or combine a major in anthropology with one in another discipline.

Degree Requirements for BA in Anthropology

For general requirements, see Graduation Requirements (pages 16–19).

Students majoring in anthropology must:

- Complete a total of 30 semester hours of approved courses (10 hours), at least 24 of which should be anthropology courses and at least 18 hours of which should be taken at the 300-level or above.

- Pass 2 of the following 4 introductory courses:
  
  ANTH 200 Introduction to the Scientific Study of Language
  ANTH 201 Introduction to Social–Cultural Anthropology
  ANTH 203 Human Antiquity
  ANTH 205 Introduction to Archaeology

- Pass 3 courses in any one of the following three categories:
**Archaeological Studies**

ANTH 210 Anthropology of Death  
ANTH 312 African Prehistory  
ANTH 345 Politics of the Past  
ANTH 355 Landscape Archaeology  
ANTH 362 Archaeological Field Techniques  
ANTH 442 Museums: Theory and Practice  
ANTH 456 Heritage Management  
ANTH 458 Human Osteology

**Cultural Studies of Science, Technology, and Medicine**

ANTH 235 Nanotechnology: Content and Context  
ANTH 298 Biotechnology, 1900 to Now  
ANTH 314 Genetics: Science and Society  
ANTH 315 Anthropology of Information and Networks  
ANTH 345 Politics of the Past  
ANTH 352 Interscientific Collaboration  
ANTH 366 Science, Local and Global  
ANTH 375 Abracadabra  
ANTH 381 Medical Anthropology  
ANTH 386 Medicine, Food, and Health  
ANTH 440 Biology and Culture  
ANTH 442 Museums: Theory and Practice  
ANTH 446 Advanced Seminar in Medical Anthropology  
ANTH 455 Introduction to Science and Technology Studies

**Culture, Language and Media**

ANTH 210 Anthropology of Death  
ANTH 302 Anthropological Theory  
ANTH 309 Global Cultures  
ANTH 319 Symbolism and Power  
ANTH 320 Public Spheres and Public Cultures  
ANTH 321 Text as Property, Property as Text  
ANTH 329 Bodies, Sensualities, and Art  
ANTH 347 The U.S. as a Foreign Country  
ANTH 351 Cultures of Nationalism  
ANTH 352 Interscientific Collaboration  
ANTH 366 Science, Local and Global  
ANTH 372 Cultures of Capitalism  
ANTH 375 Abracadabra  
ANTH 413 Postsocialism  
ANTH 430 Experimental Writing  
ANTH 483 Documentary and Ethnographic Film

- Pass the appropriate research course(s):
  
  For students specializing in Cultural Studies of Science, Technology, and Medicine or Culture, Language, and Media:
  ANTH 495 Anthropology Capstone, or
  ANTH 490 and 491 Directed Honors Research

  For students specializing in Archaeological Studies:
  ANTH 562 Archaeological Field Techniques

With the approval of the undergraduate advisor, 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 one or two 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 28).
ARCHAEOLOGICAL FIELD SCHOOL ON GORÉE ISLAND, SENEGAL

The Department of Anthropology offers a 6-week field school in June and July on the island of Gorée, located off the coast of Senegal, just a short ferry ride away from the capital city of Dakar. The field school excavations are part of ongoing investigations into the growth and development of Gorée as a supply port for the Atlantic trade, occupied and serviced by a polycultural population of slaves, Europeans, mainland Africans, and mixed-race female landowners, known as signares. Two courses, ANTH 364 and 370, are offered for a total of 6 hours credit. The courses are offered without specific prerequisites, but there is a general requirement that students have some prior coursework in archaeology or African history. Program fees apply.

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 1st-year plan of study and provisional plans for succeeding years in consultation with an advisor. 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 61–62).

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 2 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 1st-year students receive the same level of support: a combination of graduate fellowships and tuition scholarships. These awards are renewed for a further 3 years of study.

See ANTH in the Courses of Instruction section.
APPLIED PHYSICS GRADUATE PROGRAM

THE RICE QUANTUM INSTITUTE

DIRECTOR OF APPLIED PHYSICS GRADUATE PROGRAM
D. Natelson

PARTICIPATING FACULTY
This program is open to faculty from physics and astronomy, chemistry, mechanical engineering and materials science, electrical and computer engineering, bioengineering, computational and applied mathematics, and chemical and biomolecular engineering.

DEGREES OFFERED: MS, PhD
A joint effort of both the natural sciences and the engineering divisions at Rice and overseen by the Rice Quantum Institute (RQI), the Applied Physics Program (APP) is administered by a committee composed of members from the participating departments mentioned above. The objective is to provide an interdisciplinary graduate education in the basic science that underlies important technology. The faculty believes that the experience obtained by performing research at the intellectually stimulating interface of physical science and engineering is particularly effective in producing graduates who succeed in careers based on new and emerging technologies.

Due to the interdisciplinary nature of the program, students can access virtually any of the research facilities in either the natural sciences or engineering schools of Rice University. The Applied Physics Committee (APC) urges prospective students to contact individual departments or RQI for detailed descriptions of research facilities and ongoing research projects. Within RQI alone, there are more than 100 separate projects, and there are numerous other research opportunities.

DEGREE REQUIREMENTS
The Applied Physics Program (APP) offers master's and PhD degrees. For each degree, the student must fulfill the university requirements set forth in the catalog under which he/she entered. The semester hour requirements may be fulfilled both by classroom hours and research hours. A total of 9 one-semester graduate level courses is required for the master's degree in applied physics, ordinarily a requirement for advancement to candidacy in the PhD program. Four of these are core courses required of all students, and 5 are elective courses chosen according to individual research goals. The Applied Physics Committee (APC) may waive some course requirements for students who demonstrate a thorough knowledge of material in 1 or more core/elective course(s). Full requirements are available on line at rqi.rice.edu/academics/graduate/APPRequirements.pdf.

By the end of the 3rd year in the program, all APP students should have completed the university requirements for a master's degree, fulfilled the course requirements of the APP, and defended a master's thesis in a public oral examination by a committee approved by the APC. The examination covers the work reported in the thesis as well as the entire field in which
the student intends to work toward the PhD. The examining committee votes separately on awarding the master's degree and on admission to candidacy for the PhD. The student also must fulfill the teaching requirements set by the host department to achieve candidacy. Fulfillment of all university degree requirements and successful defense of a PhD thesis in a public examination by an APC-approved committee is necessary for the PhD.

**Core courses**

*Quantum Mechanics I* (PHYS 521 or CHEM 530)

*Quantum Mechanics II* or *Statistical Physics* (PHYS 522 or PHYS 526 or CHEM 531 or CHEM 520)

*Classical Electrodynamics* (PHYS 532)

*Introduction to Solid State Physics I* (PHYS 563/ELEC 563)

It is assumed that the student has an adequate background in classical mechanics, electrostatics, and statistical and thermal physics. This background is determined from interviews or exams given to entering students by the APC or the host department.

**Elective courses (5 required)**

BIOE 584 Lasers in Medicine and Bioengineering

BIOE 589/BIOS 589 Computational Molecular Biophysics

BIOE 610/PHYS 600 Methods of Molecular Simulation/Advanced Topics in Physics

CENG 630 Chemical Engineering of Nanostructured Materials

CHEM 495 Transition Metal Chemistry

CHEM 515 Chemical Kinetics & Dynamics

CHEM 520 Classical and Statistical Thermodynamics

CHEM 530 Quantum Mechanics I/Quantum Chemistry

CHEM 531 Quantum Mechanics II/Quantum Chemistry

CHEM 533 Nanostructure & Nanotechnology

CHEM 547 Supramolecular Chemistry

CHEM 611 High Temperature and High Pressure Chemistry

CHEM 630 Molecular Spectroscopy and Group Theory

ELEC 462 Semiconductor Devices

ELEC 463 Lasers and Photonics

ELEC 465 Physical Electronics Practicum

ELEC 560 Linear/Nonlinear Fiber Optics

ELEC 561 Topics in Semiconductor Manufacturing

ELEC 562 Submicrometer & Nanometer Device Technology

ELEC 564/PHYS 564 Introduction to Solid State Physics II

ELEC 565 Topics in Quantum Semiconductor Nanostructures

ELEC 567 Applied Quantum Mechanics

ELEC 568 Laser Spectroscopy

ELEC 569 Ultrafast Optics

ELEC 591 Optics

ELEC 592 Topics in Quantum Optics (Nonlinear Optics)

ELEC 603 Topics in Micro- and Nanophotonics

ELEC 691 Seminar Topics in Nanotechnology

MECH 679 Applied Monte Carlo Analysis

MECH 682 Convective Heat Transfer

MECH 683 Radiative Heat Transfer I

MECH 684 Radiative Heat Transfer II

MSCI 402 Mechanical Properties of Materials

MSCI 523 Properties, Synthesis, and Design of Composite Materials

MSCI 535 Crystallography and Diffraction

MSCI 597 Polymer Synthesis, Soft Materials, and Nanocomposites

MSCI 610 Crystal Thermodynamics

MSCI 614 Principles of Nanoscale Mechanics

MSCI 615 Thin Film Failure Analysis, Measurement, and Reliability

MSCI 623 Analytical Spectroscopies

MSCI 634 Thermodynamics of Alloys

MSCI 635 Transformation of Alloys

MSCI 645/ELEC 645 Thin Films

MSCI 666 Conduction Phenomena in Solids

PHYS 480 Introduction to Plasma Physics

PHYS 512 Ionospheric Physics
PHYS 515 Classical Dynamics  
PHYS 516 Mathematical Methods  
PHYS 521 Quantum Mechanics I  
PHYS 522 Quantum Mechanics II  
PHYS 526 Statistical Physics  
PHYS 533/534 Nanostructures and Nanotechnology I/II  
PHYS 537/538 Methods of Experimental Physics I/II  
PHYS 539 Characterization and Fabrication at the Nanoscale  
PHYS 552 Molecular Biophysics  
PHYS 564/ELEC 564 Introduction to Solid State Physics II  
PHYS 566 Surface Physics  
PHYS 568 Quantum Phase Transitions  
PHYS 571 Modern Atomic Physics and Quantum Optics  
PHYS 572 Fundamentals of Quantum Optics  
PHYS/ELEC 605 Computational Electrodynamics and Nanophotonics  
PHYS 663 Condensed Matter Theory: Applications  
PHYS 664 Condensed Matter Theory: Many-Body Formalism

No courses may be used for both core and elective courses. Due to overlap of curricula, only 1 from each of the pairs PHYS 521/CHEM 530, PHYS 522/CHEM 531, and PHYS 526/CHEM 520 may be used for the 9 required courses.
ARCHITECTURE

THE SCHOOL OF ARCHITECTURE

DEAN
Lars Lerup

ASSOCIATE DEAN
John J. Casbarian

PROFESSORS
William T. Cannady
Carlos Jimenez
Albert H. Pope
Gordon G. Wittenberg Jr.

ASSOCIATE PROFESSORS
Farès el-Dahdah
Sanford Kwinter
Spencer W. Parsons

ASSOCIATE PROFESSOR IN THE PRACTICE OF ARCHITECTURE
Nana Last

ASSISTANT PROFESSORS
Dawn Finley
Christopher Hight

Sean Lally
Clover Lee

SENIOR LECTURERS
Alan Fleishacker
James Furr

LECTURERS
Tom Lord
Frank S. White

PROFESSORS IN PRACTICE
Nonya S. Grenader
Douglas E. Oliver

ADJUNCT LECTURER
Stephen Fox

VISITING SMITH PROFESSOR
Danny M. Samuels

VISITING CULLINAN PROFESSOR
Mark Wamble

VISITING WORTHAM FELLOW
Eva Franch Gilabert
Robert Troy Schaum

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, which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes 2 types of degree: the Bachelor of Architecture and the Master of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on its degree of conformance with established educational standards.

Master’s degree programs may consist of a preprofessional 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,
De partments / Architecture

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 16–19). 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 4 semesters of design studios and other related courses in architecture. The 1st-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 2 semesters of architectural technology. They also must complete university distribution requirements. It is recommended that students take an introductory drawing course during their first 2 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 3rd and 4th years are organized around the workshop model and emphasize urban design issues, digital media applications, and comprehensive building design. The spring studios are vertically integrated, allowing students to select offerings emphasizing specialized design topics such as technology, landscape design, historical precedent, sustainable design, and project delivery systems. During the 3rd and 4th 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 2nd semester of the 4th year.

BA in Architectural Studies—As an alternative to the preprofessional degree sequence, and open only to students who have been admitted as architecture majors and have completed the 2-year foundation program, the Architectural Studies curriculum is an option. The first 4 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 an additional studio and 4 elective courses in architecture. The program provides basic preparation for later professional study while allowing other academic interests to be pursued at greater depth.
Degree Requirements for a Bachelor of Architecture (BArch)

The Bachelor of Architecture program is open only 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 2-semester preceptorship, and completion of 2 graduate studios and 5 approved lecture or seminar courses. Students may apply to Rice School of Architecture Paris to complete one semester in Paris.
The 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 4 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 also are 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. 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 4-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 2 semesters of
college-level courses in the history of art and/or architecture are recommended, as is a minimum of one semester of college-level courses in mathematics or physics. Previous preparation in the visual arts also is desirable, as are courses in philosophy, literature, and economics.

To graduate, students must complete a 4-semester core curriculum (76 credit hours), which is followed by a 3-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

**1st Semester**
- ARCH 501 *Core Design Studio I*
- ARCH 507 *Introduction to Design of Structures*
- ARCH 635 *Introduction to Architectural Presentation*
- ARCH 685 *Architecture and Society I*

**2nd Semester**
- ARCH 502 *Core Design Studio II*
- ARCH 509 *Design of Structures II*
- ARCH 532 *Introduction to Digital Visualization and Communication*
- ARCH 686 *Architecture and Society II*

**3rd Semester**
- ARCH 503 *Core Design Studio III*
- ARCH 516 *Environmental Control Systems*
- ARCH 683 *20th-Century History of Ideas in Architecture*
- Distribution Elective (*Computing, Logic, and Representation*)

### 4th Semester
- ARCH 504 *Architectural Problems*
- ARCH 623 *Professionalism and Management in Architecture*
- Distribution Elective (*History, Theory, and Criticism*)
- Distribution Elective (*Structures, Practice, and Environments*)

### Advanced Curriculum

**5th Semester**
- ARCH 601 *Architectural Problems*
- Distribution Elective (*History, Theory, and Criticism*)
- Distribution Elective (*Computing, Logic, and Representation*)
- Elective

**6th Semester**
- ARCH 602 *Architectural Problems*
- ARCH 702 *PreThesis Preparation*
- Distribution Elective (*Structures, Practice, and Environments: Sustainability*)
- Elective

**7th Semester**
- ARCH 703 *Thesis Studio or Architectural Problems and Elective*
- Elective
- Elective

### Option 2

**5-Semester Program**—Option 2 is offered to individuals who hold a 4-year undergraduate degree with a major in architecture. Preference for admission is given to those who have successfully completed between 4 and 6 semesters of undergraduate design studio as well as undergraduate courses that are analogous to those given in the 1st year of Option 1. A minimum of 2 semesters of college-level courses in the history of art and/or architecture are recommended; as is a minimum of 1 semester of college-level courses in mathematics and physics.

Students in this program enter into the 2nd year of the core curriculum (2 semesters, 38 credit hours), followed by the advanced curriculum (3 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).
1st Semester
ARCH 503 Core Design Studio III
ARCH 516 Environmental Control Systems
ARCH 683 20th-Century History of Ideas in Architecture
Dist. Elective (Computing, Logic, and Representation)

2nd Semester
ARCH 504 Architectural Problems
ARCH 623 Professionalism and Management in Architecture
Distribution Elective (History, Theory, and Criticism)
Distribution Elective (Structures, Practice, and Environments)

Advanced Curriculum
3rd Semester
ARCH 601 Architectural Problems
Distribution Elective (History, Theory, and Criticism)

4th Semester
ARCH 602 Architectural Problems or
ARCH 702 Prethesis Preparation
Distribution Elective (Structures, Practice, and Environments): Sustainability
Elective

5th Semester
ARCH 703 Design Thesis Studio or
ARCH 601 Architectural Problems and Elective
Elective
Elective

Thesis Requirement—MArch Option 1 and Option 2 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 and 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 2 faculty members as readers. While the thesis is independent work carried out by the student under the direction of a chosen advisor, 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.

**RSA Paris**

MArch (Option 1 and Option 2) students may apply as RSAP to complete one semester in Paris: Option 1 students may do so after the forth semester, Option 2 and 3 after their second semester.

**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 1st 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 also are required to prepare an independent thesis during their 3rd 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 3 semesters of course work before the qualifying examination. A student with a bachelor’s degree normally requires 2 to 5 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 1 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 4 years of full-time study.

See ARCH in the Courses of Instruction section.
Art History

The School of Humanities

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Professor
Joseph Manca
Diane Wolfthal

Associate Professors
Marcia Brennan
Linda E. Neagley

Assistant Professors
Graham Bader
Robert Leo Costello
Shrine T. Hamadeh
Shih-Shan Susan Huang
Gordon Hughes
Caroline Quenemoen

Postdoctoral Fellow
Francesca Leoni

Visiting Assistant Professor
Lida Oukaderova

Degrees Offered: BA

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 16–19).

Students with a single major in art history must complete 36 hours in art history (12 courses) and double majors must complete 30 hours (10 courses). A total of 6 of the courses for double and single majors must be at the 300 level or above. Of these 6 courses, 2 courses must be in each of the following periods: Pre Modern (antiquity to the medieval period), Early Modern (early modern, or Renaissance in the European context, to the later 18th century), and Modern (later 18th century to the present). Three of these 6 courses also must be in American/European, distributed over the 3 periods; 1 course in Asian from any period; and 1 course in Middle East/Islamic from any period. Of the 12/10 courses for single and double majors, at least 2 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 advisor, a maximum of 4 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 29).
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 advisor to a committee of art historians for review. If accepted, 6 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 advisor 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 1st 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 and in Houston

Houston is fortunate to have some of the best art collections in the United States. The department enjoys a strong and ongoing relationship with the local museums, in particular the Menil Collection and the Museum of Fine Arts, Houston. The department offers opportunities for students to 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 focus of class lectures and research papers in art history.

The department sponsors the Katherine Brown Distinguished Lectures in Art History, which bring leading scholars to Rice to speak on a wide variety of topics. The department also hosts occasional symposia and lectures in collaboration with other departments, presenting the ideas of top scholars, critics, and artists.

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

Exhibitions and related activities organized by the Rice University Art Gallery enrich the university and the Houston community. The Department of Visual and Dramatic Arts mounts several art and photography exhibitions each year and sponsors Rice Cinema, a public alternative film program.

See HART in the Courses of Instruction section.
Asian Studies

The School of Humanities and the School of Social Sciences

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Tani E. Barlow — Spring

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Jonathan Ludwig
Hiroko Sato
Guatami Shah
Meng Yeh

Lecturers
Indranil Dutta
J. Won Han
Chao-Mei Shen
Peiting Tsai

Degree Offered: BA

Asian Studies is an interdisciplinary major that explores the national, regional, and local cultures of Asia, past and present, with a particular emphasis on the way that these diverse cultures interact with one another and with the rest of the world. The major is built around courses in the humanities and social sciences divisions as well as two team-taught interdisciplinary core courses, Introduction to Asian Civilizations and Perspectives on Modern Asia. Some residential college courses may qualify for Asian Studies credit.

Degree Requirements for BA in Asian Studies

For general university requirements, see Graduation Requirements in this publication. The undergraduate Asian Studies major consists of 30 hours or more of course work. There are 3 basic requirements:

1. One foundational course: either ASIA 211/HART 211/HIST 206 Introduction to Asian Civilizations or ASIA 212 Perspectives on Modern Asia.

2. 9 additional courses drawn from at least 3 of the departments offering 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.

Note: Of the 10 courses required for the Asian Studies major (that is, ASIA 211/HART 211/HIST 206, or ASIA 212, plus the 9 additional courses mentioned above):

• 4, but no more than 4, of the 10 can be Asian language courses.
  (For details on the Asian Studies language requirement, see #3 below.)
• 4 of the 10 must be at the 300-level or above.

3. Asian Studies majors must have the equivalent of at least 2 years of coursework in a single Asian language (this may include an Asian language other than those offered by Rice). As indicated above, up to 4 Asian language courses can be used to satisfy the 10-course Asian Studies major requirement. Students who have placed into the third year (300–level) or higher of an Asian language will have satisfied our proficiency requirement for the major. If such students continue with the same language (or decide to take another Asian language), they, too, can count up to 4 of these Asian language courses toward the 10-course Asian Studies major requirement.

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 310 Contemporary Chinese Culture
ANTH 327 Cultures of Capitalism
ANTH 353 Cultures of India

**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 offered as HIST 206 and HART 211)
ASIA 221 The Life of the Prophet Muhammad
(also offered as RELI 221)
ASIA 230 Asian Religion in America
(also offered as RELI 230)
ASIA 231 American Metaphysical Religion
(also offered as RELI 231)
ASIA 232 Religions From India
(also offered as RELI 231)
ASIA 240 Gender and Politicized Religion
(also offered as SWGS 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 SWGS 299)
ASIA 315 Taiwan’s Films since 1980
(also offered as CHIN 315)
ASIA 323 The Knowing Body
(also offered as SWGS 323 and RELI 323)
ASIA 330 Introduction to Traditional Chinese Poetry
(also offered as CHIN 330)

ASIA 331 South Asian Literature, Poetry, and Popular Culture I
(also offered as HIND 335)
ASIA 332 Chinese Literature and its Movie Adaptations
(also offered as CHIN 332)
ASIA 334 Traditional Chinese Tales
(also offered as CHIN 334)
ASIA 335 Introduction to Classical Chinese Literature
(also offered as CHIN 335)
ASIA 336 South Asian Literature, Poetry, and Popular Culture II
(also offered as HIND 336)
ASIA 340 Gender and Politicized Religion
(also offered as SWGS 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 350 History and Politics of Central Asia
ASIA 355 Religion and Social Change in South Asia
(also offered as RELI 355)
ASIA 360 China and the Chinese Diaspora
ASIA 361 The Oriental Renaissance
(also offered as RELI 361)
ASIA 363 Marriage of Heaven and Hell
(also offered as RELI 363)
ASIA 372 Survey of Asian American Literature
(also offered as ENGL 372)
ASIA 380 The Asian American Experience
ASIA 385 Chinese Art and Visual Culture
(also offered as HART 372)
ASIA 389 The Indian Ocean World
(also offered as HIST 389)
ASIA 399 Women in Chinese Literature
(also offered as MDST 379 and SWGS 399)
ASIA 401/402 Independent Reading
ASIA 422 Original Beauty of Chinese Literature
ASIA 432 Islam in South Asia (also offered as HIST 432 and SWGS 432)
ASIA 441 Popular Religion in the Middle East
(also offered as RELI 441/525)
ASIA 470 Visual Culture in Revolutionary and Postrevolutionary China (ca. 1949-present)
(also offered as HART 470)
ASIA 473 Topics in Asian American Literature
(also offered as ENGL 473)

**Chinese**
CHIN 101/102 Introductory Chinese I and II
CHIN 201/202 Elementary Chinese I and II
CHIN 203/204 Accelerated Chinese I and II
CHIN 211/212 Accelerated Elementary Chinese I and II
CHIN 215 Classical Chinese
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 314 Contemporary China
CHIN 315 Taiwan’s Films since 1980
(also offered as ASIA 315)
CHIN 316 Texts from Popular Culture
CHIN 318 Medical Chinese
CHIN 321 Structure of Chinese: Syntax and Semantics
(also offered as LING 321)
CHIN 322 Taiwanese Language and Literature
CHIN 330 Introduction to Traditional Chinese Poetry
(also offered as ASIA 330)
CHIN 332 Chinese Literature and its Movie Adaptations
(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
CHIN 422 Original Beauty of Chinese Literature
(also offered as ASIA 422)

**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, Poetry, and Popular Culture I
(also offered as ASIA 335)
HIND 336 South Asian Literature, Poetry, and Popular Culture II
(also offered as ASIA 336)
HIND 398/399 Hindi Teaching Practicum

**History**
HIST 134 20th-Century Chinese Women
HIST 206 Introduction to Asian Civilizations
HIST 219 Fortune-Tellers and Philosophers
HIST 220 Contemporary China
(also offered as ANTH 220)
HIST 268 Bondage in the Modern World
HIST 270 South Africa and Indonesia
HIST 271 History of South Asia to 1857
HIST 272 Modern South Asia
HIST 302 Traditional Chinese Culture
HIST 310 Contemporary China
(enriched version of HIST 220; also offered as ANTH 310)
HIST 319 Fortune-Tellers and Philosophers
HIST 320 Imperial Gardens
HIST 341 Premodern China
HIST 342 Modern China
HIST 389 The Indian Ocean World
(also offered as ASIA 389)
HIST 405 Issues in Comparative History
HIST 432 Islam in South Asia
(also offered as ASIA 432 and WGST 432)
HIST 450 Traditional Chinese Culture
(enriched version of HIST 250)
HIST 493 Early Modern Islamic Empires

**History of Art**
HART 170 The Arts of China
HART 211 Introduction to Asian Civilization
(also offered as ASIA 211 and HIST 206)
HART 372 Chinese Art and Visual Culture (also offered as ASIA 385, HART 372, and MDST 373)
HART 470 Visual Culture in Revolutionary and Postrevolutionary China (ca. 1949-present) (also offered as ASIA 470)

**Political Science**
POLI 250 Political Economy of Gender (also offered as SWGS 250)
POLI 460 Seminar in Comparative Government

**Religious Studies**
RELI 131/132 Intro Tibetan Language and Culture I and II (also offered as TIBT 131/132)
RELI 221 The Life of the Prophet Muhammad (also offered as ASIA 221)
RELI 230 Asian Religion in America (also offered as ASIA 230)
RELI 231 American Metaphysical Religion (also offered as ASIA 231)
RELI 232 Religions From India (also offered as ASIA 232)
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 and SWGS 323)
RELI 328 Tantra in Comparative Perspective
RELI 333 Knowing Body/Glowing Mind
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 441/525 Popular Religion in the Middle East (also offered as ASIA 441)
RELI 470 Buddhist Wisdom Texts
RELI 480/580 Sexuality, Sanctity, and Psychoanalysis (also offered as SWGS 470)

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

**Tibetan**
TIBT 131/132 Intro Tibetan Language and Culture I and II (also offered as RELI 131/132)
Women, Gender, and Sexuality Studies

SWGS 240 Gender and Politicized Religion
(also offered as ASIA 240)

SWGS 250 Political Economy of Gender
(also offered as ASIA 250)

SWGS 299 Women in Chinese Literature
(also offered as ASIA 299 and CHIN 299)

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

SWGS 340 Gender and Politicized Religion
(also offered as ASIA 240)

SWGS 399 Women in Chinese Literature
(also offered as ASIA 399 and CHIN 399)

SWGS 432 Islam in South Asia
(also offered as ASIA 432 and HIST 432)

SWGS 470 Sexuality, Sanctity, and
Psychoanalysis
(also offered as RELI 480/580)

See ASIA in the Courses of Instruction section.
BIOENGINEERING

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Tse-Kuan Yu

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Neel Bhatavadekar

ADJUNCT LECTURER
Kathryn Peek

DEGREES OFFERED: BSB, MBE, MS, PhD

Graduate programs in bioengineering offer concentrations in areas such as biomedical imaging and diagnostics, cellular and biomolecular engineering, computational and theoretical bioengineering, drug delivery and biomaterials, supramolecular biophysics and bioengineering, and tissue engineering and
biomechanics. Undergraduate programs in bioengineering offer concentrations in areas that include cellular and molecular engineering; bioinstrumentation, imaging, and optics; and biomaterials and biomechanics. 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 overall goal of the BS degree in bioengineering is to prepare students to succeed in professional careers by equipping them with the conceptual and technical expertise sought after by top graduate and medical schools, as well as by companies seeking technical skills in bioengineering.

The educational objectives that students are expected to exhibit or achieve after graduation with the BS degree in bioengineering from Rice University are:

- Critical problem solving skills
- Fundamental understanding of math and the natural, life, and medical sciences
- Knowledge of bioengineering principles and their applications
- Ability to conduct scientific inquiry in bioengineering
- Ability to design solutions to real-world engineering problems
- Ability to communicate and work effectively with others
- Preparation for professional challenges that arise in a rapidly-changing field

The BSB degree is organized around a core of required courses and a selection of elective courses from 3 areas of specialization. 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 advisors to plan a program that meets their needs.

**Degree Requirements for BS in Bioengineering**

For general university requirements, see Graduation Requirements (pages 16–19). 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, BIOS 201, ELEC 243 and MECH 211. BIOE 252 should be taken in the 1st semester of the sophomore year. BIOE 330, BIOE 320, and BIOE 322 should be taken the 2nd semester of the sophomore year.

Students majoring in bioengineering must complete the following courses.

**Core Courses**

**Bioengineering**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>BIOE 252</td>
<td>Bioengineering Fundamentals</td>
</tr>
<tr>
<td>BIOE 320</td>
<td>Systems Physiology Laboratory Module</td>
</tr>
<tr>
<td>BIOE 322</td>
<td>Systems Physiology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 330</td>
<td>Bioreaction Engineering</td>
</tr>
<tr>
<td>BIOE 332</td>
<td>Thermodynamics</td>
</tr>
<tr>
<td>BIOE 342</td>
<td>Tissue Culture Laboratory</td>
</tr>
<tr>
<td>BIOE 370</td>
<td>Biomaterials</td>
</tr>
<tr>
<td>BIOE 372</td>
<td>Biomechanics</td>
</tr>
<tr>
<td>BIOE 383</td>
<td>Biomedical Instrumentation</td>
</tr>
</tbody>
</table>
**Bioengineering** 113

*Students must take advanced laboratory module in their specialization area:
BIOE 442 or 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 advanced laboratory module for a total of 2 of the 4 listed modules (BIOE 442, 443, 444, and 445).

**Specialization Areas**

Three specialization area elective courses, at least 2 of which must be at the senior level, will be required in 1 of the 3 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. All 3 specialization courses must be engineering courses.

**Undergraduate Minor**—The Department of Bioengineering collaborates with a number of departments to offer Rice undergraduate students a minor in global health technologies (GLHT) through the Beyond Traditional Borders (BTB) initiative—a unique, multidisciplinary program to educate and train students to reach beyond traditional disciplinary and geographic boundaries to understand, address, and solve global health disparities. With complementary contributions from the humanities, social sciences, policy, bioscience, and engineering programs at Rice, the GLHT minor prepares students to integrate diverse perspectives as they develop solutions to the complex problems of global health, using the formal approach of the engineering design process.

See **GLOBAL HEALTH TECHNOLOGIES** in the Departments and Interdisciplinary Programs section for minor requirements.
Graduate Program—To train the next generation of leaders in bioengineering, we have built an innovative teaching program that transcends boundaries between bioengineering, basic science, and clinical medicine, integrating the academic, industrial, and societal perspectives.

Our hands-on approach to education is supported by a long standing tradition of cross-disciplinary research and education. The Rice bioengineering program is a comprehensive training program that provides student with:

- A fundamental understanding of the life and medical sciences
- Advanced analytical and engineering capabilities,
- Translational research that transfers biotechnical advances from bench to bedside

With this educational background, graduates will be well prepared to participate in independent or collaborative research and development endeavors in industry or academia.

Degree Requirements for MBE and MS and PhD in Bioengineering

For general university requirements, see Graduate Degrees (pages 61–62).

To make sure scores are available when admission decisions are made, applicants need to register to take the GRE and TOEFL as required before September for the year in which they are applying. Applicants should request transcripts and letters of recommendation before September, as well, to give senders time to get the material to Rice University by the January 15 deadline. The Graduate Admissions Committee begins its deliberations in late November. Application materials received after the January 15 deadline will not be considered. Once admitted, departmental policy requires full-time students to be registered for at least 12 credit hours each semester.

MBE Program—The Master of Bioengineering degree is intended for those having a BA or BS degree in an engineering or science discipline.

To obtain a Master of Bioengineering degree, the following requirements must be completed.

1–Curriculum has to be approved by the Academic Affairs Committee of the bioengineering department. This will be done on a case-by-case basis.

2–A total of 30 credit hours is required (courses must be above and beyond the requirement for the undergraduate degree) as follows:

- At least 15 credit hours of the 24 must be taken as BIOE courses, including Fundamentals of Systems Physiology (BIOE 572, 3 hours) and Design and Analysis of Experiments (BIOE 541, 3 hours)
- Cell Biology (BIOS 341, 3 hours)
- Intro to Partial Differential Equations (MATH 381) or a 400-level or higher MATH, STAT, or CAAM course (3 hours)
- One additional engineering course (3 hours)
- Two additional courses approved by the Academic Affairs Committee (6 hours).

In summary, the credit hours required are:

- Completion of 30 total credit hours, with 15 credit hours of BIOE courses
- Completion of 3 credit hours of BIOS 341
• Completion of 3 credit hours of MATH 381 or 400-level or higher MATH/STAT/CAAM course
• Completion of 3 credit hours of one additional engineering course, and
• Completion of 6 credit hours of additional courses approved by the Academic Affairs Committee
• Maintain an average GPA of 3.0 or higher.

**MS Program**—Candidates for the MS degree must:

- Complete at least 18 approved semester hours of foundation, supporting, and advanced courses while maintaining a grade point average of 3.0
- MS students must earn additional credits they need for graduation by registering for the master's research course BIOE 600 during the terms they are engaged in research.
- 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 30 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 1st semester in residence, students may be asked to spend the equivalent of 6 to 10 hours per week for a total of 3 semesters on teaching assignments.
- Submit a thesis proposal. PhD students must submit and successfully defend their thesis proposals by the end of their 4th semester in residence.
- Complete a 3- to 6-month internship. This requirement may be waived for those with adequate previous relevant 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:

- Molecular, cellular, and tissue engineering
- Imaging and optics
- Biomaterials, biomechanics, and tissue engineering
- Computational and theoretical bioengineering
- Supramolecular biophysics and bioengineering

See BIOE in the Courses of Instruction section.
BIOSCIENCES

BIOCHEMISTRY AND CELL BIOLOGY

THE WIESS SCHOOL OF NATURAL SCIENCES

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Daniel Wagner
Weiwai Zhong

DISTINGUISHED FACULTY FELLOW
Quentin Gibson

SENIOR FACULTY FELLOW
Marian Fabian

FACULTY FELLOW
Darrell Pilling

LECTURER/LABORATORY COORDINATORS
Beth Beason
David R. Caprette
Elizabeth Eich
Dereth Phillips

ADJUNCT FACULTY
James Armstrong
Sarah Bondos
Richard Brennan
Richard Dixon
Daniel Feeback
Robert O. Fox
Susan Gibson
Vincent Hilser
Kendal Hirschi
Paolo Moretti
Debananda Pati
Neal Pellis
George N. Phillips Jr.
Florante A. Quiocio
Clarence Sams
Scott Singleton
Ah-Lim Tsai
Peggy Whitson
Pernilla Wittung-Stafshede

ECOLOGY AND EVOLUTIONARY BIOLOGY

THE WIESS SCHOOL OF NATURAL SCIENCES

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Joan Strassmann

PROFESSORS
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David C. Queller
Evan Siemann
Calvin H. Ward

ASSISTANT PROFESSORS
Nat Holland
Michael Kohn
Nicholas H. Putnam
Jennifer Rudgers
Volker Rudolf
Ken Whitney
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. They also may select courses from the range of topics listed above.

Core courses required of all bioscience majors:

**Mathematics**
- MATH 101/102 Single Variable Calculus I and II

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

**Physics**
- PHYS 125/126 General Physics I and II

**Biosciences**
- BIOS 201/202 Introductory Biology
- BIOS 301 Biochemistry
- BIOS 211 Introductory Lab in Biological Sciences (2 credit hours)
- BIOS 213 Introductory Lab in Ecology and Evolutionary Biology

1 Group B BIOS course

2 of the following advanced laboratory courses:
- BIOS 311 Lab in Protein Purification
- BIOS 312 Lab Module in Molecular Biology I
- BIOS 313 Lab Module in Molecular Biology II
- BIOS 314 Lab in Cell and Developmental Biology
- BIOS 315 Lab in Physiology
- BIOS 316 Lab in Ecology
- BIOS 317 Lab in Behavior
- BIOS 318 Lab in Microbiology
- BIOS 320/BIOE 342 Lab in Tissue Culture
- BIOS 327 Biological Diversity Lab
- BIOS 330 Insect Biology Lab
- BIOS 337 Field Bird Biology Lab
- BIOS 393 Laboratory Transfer Credit in Biosciences
- BIOS 530 NMR Spectroscopy and Molecular Modeling
- BIOS 532 Spectroscopy
- BIOS 533 Computational Biology
- BIOS 535 Practical X-Ray Crystallography
MATH 111 and 112 may be substituted for MATH 101; CHEM 151 and 152 may be substituted for CHEM 121 and 122; CHEM 251 and 252 may be substituted for CHEM 211 and 212; PHYS 101 and 102 or PHYS 111 and 112 and their labs may be substituted for PHYS 125 and 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 or BIOS 306 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 preapproved by the student’s advisor; (iii) BIOS 412; or (iv) BIOS 393.

**BA in Biochemistry and Cell Biology**

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

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

CHEM 311/312 may be substituted for BIOS 352. NEuR 511/512 or BIOE 430 or BIOE 435 may be substituted for 1 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, MATH 213, STAT 305, or BIOS 338
- 1 of the following advanced lab courses: BIOS 311, 312, 313, 314, 315, 316, 317, 318, 320 (BIOE 342), 327, 330, 337, 393, 530, 532, 533, or 535
- 1 of the following Group A courses: BIOS 302, 341, 344, 352
- 1 additional Group A course
- 2 Group B courses
- 1 additional Group A or Group B course

Only 1 of the courses used to satisfy these Group A and Group B requirements may be BIOS 401, 402, 403, or 404. NEur 511/512 or BIOE 430 or BIOE 435 may be substituted for 1 Group A course. CHEM 311/312 may be substituted for BIOS 352. 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, 327, 330, 337, or 393.

**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 or CHEM 312/313
- Three additional Group A bioscience courses
BIOS 401/402 are recommended Group A courses in the BS degree program. NEUR 511/512 or BIOE 430 or BIOE 435 may be substituted for one Group A course. CHEM 311 and 312 may be substituted for BIOS 352. 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, MATH 213, STAT 305, or BIOS 338
- 1 of the following advanced laboratory courses: BIOS 316, 317, 327, 330, 337, 393
- 1 Group A biosciences course
- BIOS 403 and BIOS 404
- 2 additional Group B biosciences courses
- 1 additional biosciences course from Group A or B

NEUR 511 and 512 or BIOE 430 or BIOE 435 may be substituted for 1 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.

Note that BIOS 311 is a prerequisite for BIOS 312, 313, 314, 315, and 318. This prerequisite will be strictly enforced, and majors in Biological Sciences whose interests are primarily in cell and molecular biology, are advised to take BIOS 311 as early as possible to allow for scheduling subsequent lab modules.

An undergraduate major in biosciences must have 48 semester hours in courses numbered 300 or higher to obtain a BA or BS degree. Students also must 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 1 full year, and, in principle, such students should be able to obtain their PhD degrees approximately 3 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 2 and 1-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 also must 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 or BS 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 Requirements for Biochemistry and Cell Biology” which is updated annually. For general university requirements, see Graduate Degrees (in the General Announcements).

Both MA and PhD Programs—Most of the formal course studies will be completed in the 1st year of residence to allow the students to commence thesis research at the end of their 2nd semester at Rice. During the 1st year, all graduate students will be advised by the Graduate Advisory Committee. This committee will determine the formal course program to be taken during the 1st 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 1st year. The corresponding courses at Rice include the following:
BIOS 301 Biochemistry
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 Responsible Conduct of Research
BIOS 599 Graduate Teaching
BIOS 701/702 Graduate Lab Research (rotations in 1st 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 544 Developmental Biology (1 unit)
BIOS 545 Advanced Molecular Biology and Genetics (1 unit)
BIOS 551 Molecular Biophysics (1 unit)
BIOS 552 Molecular Biophysics II (1 unit)
BIOS 588 Advanced Cell and Developmental Biology (1 unit)

Students should complete BIOS 583 and BIOS 587 in their 1st year, 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 2nd year. Safety and ethics presentations are provided for 1st-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 1st 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 2 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 1st 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 1st year until submission of a complete doctoral thesis
- Completion of an oral admission to candidacy examination before the end of the student’s fourth 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 MS, MA, and PhD in Ecology and Evolutionary Biology**

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

- BA or BS degree or equivalent that provides a strong background in biology
- Strong ability and motivation, as indicated by academic record, Graduate Record Examination (GRE) scores, and recommendations
- Scores from the GRE Biology subject exam are optional but can be helpful, particularly for student with nontraditional backgrounds in biology

These requirements do not preclude admission of qualified applicants who have majored in areas other than biology. Although the department offers MA and MS degrees, only on rare occasions are students who do not intend to pursue the PhD admitted to the graduate program.

Students should have completed course work in physics, mathematics (including calculus), and chemistry (including organic chemistry) prior to admission. Deficiencies in these subject areas or in specific areas of biology should be made up during the first year of residence; some may be waived at the discretion of the student's advisory committee and the department chair.

Entering students will meet with a faculty advisor to form a course of study of the first year. All first year students will complete the core course in ecology and evolutionary biology (BIOS 569) in their first semester. All graduate students are required to complete BIOS 585/586 (Graduate Seminar in Ecology and Evolutionary Biology) and two semesters of BIOS 591 (Graduate Teaching). Students must maintain a grade average of B in courses taken in the department and satisfactory grades in courses taken outside the department.

Students must demonstrate satisfactory progress in their degree program in annual reviews by a departmental committee. The review process requires that each student present a public seminar on their research, prepare a written report on their progress, and participate in an interview with the departmental committee. For general university requirements, see Graduate Degrees (in General Announcements).

**MS Program.** In addition to the general university requirements and those listed above, the master of science in ecology and evolutionary biology requires at least 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, the PhD degree in ecology and evolutionary biology requires:

- Passing the admission to candidacy examination given by the Graduate Thesis Committee. (Committee will be composed of at least 4 members. At least 3 must be members of the EEB graduate faculty.)
- Complete an original investigation and a doctoral thesis with the potential to produce publications in reputable, peer-reviewed scientific journals
- Present a departmental seminar on the research
- Publicly defend the doctoral thesis

**Departments / Biosciences**
DEGREES OFFERED: None

The Jones Graduate School of Management offers Rice undergraduate students a minor in business (BUSI). The BUSI minor consists of six integrated courses designed to provide a strong foundation in the essential disciplines of business and to develop students’ critical thinking and communication skills. All courses in the minor are taught by Jones School faculty.

Requirements for Completing the Business Minor

Students must complete the following six courses:

- BUSI 296 Business Communications
- BUSI 305 Financial Accounting
- BUSI 310 Leading People in Organizations
- BUSI 343 Financial Management
- BUSI 380 Marketing
- BUSI 471 Strategic Management

Students may receive transfer credit for at most two of the six courses necessary to complete the BUSI minor. Students must earn a grade point average of at least 2.0 in the BUSI courses taken at Rice.

Admission

BUSI courses are open to any Rice undergraduate student who meets enrollment requirements, not just to students who have declared an intention to complete the minor, and to Rice graduate students on a space-available basis. MBA-level courses (MGMT or MGMP) are not open to Rice undergraduate students.

Prerequisites

Most BUSI courses require completion of instruction in economics and statistics. Students can fulfill these requirements by successfully completing STAT 280 and ECON 370 or by receiving permission from the Program Director. The Program Director will only approve requests for STAT 280 for students who have successfully completed an equivalent statistics course at Rice, and the Program Director will only approve requests for ECON 370 for students who have successfully completed ECON 211 at Rice.

BUSI 343 and BUSI 471 require completion of other BUSI courses. The Program Director will not approve requests to waive the prerequisites for these two courses.

See the course descriptions for details on prerequisites.

Enrollment Lottery

Each section of BUSI 296 is capped at 30 students and each section of the other BUSI courses is capped at 60 students. All students who have fulfilled the
relevant prerequisites may register for courses during the registration period. If a given course is oversubscribed, the Jones School will conduct a weighted lottery to determine which students will be admitted to the course. The lottery will give greater preference to students who have successfully completed a greater number of BUSI courses and are closer to graduation.

**Declaration of the Business Minor**

To declare the BUSI minor, students must bring a completed declaration form and transcript to the Program Director for review and signature. The form is available on Esther.
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 12 languages through the 3rd 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 and 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 taken 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/placement.html.
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 29) 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 than 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 United States, and 3) a syllabus for the course they wish to take or have taken. Students should be aware that the approval process takes about 1 week and should plan accordingly.

Scholarships
Three scholarships are offered yearly through the CSL. The Donne Di Domani and the Ugo di Portanova donate money to be awarded to outstanding Rice University students. These scholarship are to be used for tuition and books and are awarded to students committed to study of the Italian language and are based on need and merit. The Ministry of Education, Republic of China in Taiwan also offers a scholarship to study Mandarin Chinese in Taiwan. 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, 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, product and process design. Course electives may be used to create a focus area in one of the following 4 disciplines: biotechnology/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 5th year of study leading to the nonthesis Master of Chemical Engineering (MChE) degree. A joint MBA/MChE degree also is 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 catalysis and nanotechnology, thermodynamics and phase equilibria, interfacial phenomena, colloids, microemulsions, rheology and fluid mechanics, biosystems engineering, biocatalysis and metabolic engineering, cell population heterogeneity and biological pattern formation, cellular and tissue engineering, energy and sustainability, gas hydrates, enhanced oil recovery, reservoir characterization, and pollution control.
Degree Requirements for BS in Chemical Engineering

For general university requirements, see Graduation Requirements (pages 16–19). 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: biotechnology/bioengineering, environmental engineering, 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.

Engineering Breadth and Focus Area Options

To complete their technical education, Rice students seeking a BS degree in chemical engineering take course electives in at least 2 other engineering disciplines to satisfy a “breadth” requirement.

Alternatively, students can use their electives to create a focus (or concentration) area in 1 of the following four disciplines:

- biotechnology/bioengineering
- computational engineering
- environmental engineering
- materials science and engineering

Consult our department web page for a detailed list of courses that can be used to satisfy the engineering breadth or focus area requirements.

Degree Requirements for BScBe in Chemical Engineering

Chemistry

CHEM 121/122 General Chemistry with Laboratory or
CHEM 151/152 Honors Chemistry with Laboratory
CHEM 211/212 Organic Chemistry
CHEM 217 Organic Chemistry Lab
CHEM 311/312 Physical Chemistry
Any 2 of CHEM 212, CHEM 311, or CHEM 312

Chemical and Biomolecular Engineering

CHBE 301 Chemical Engineering Fundamentals
CHBE 305 Computer Programming in Chemical Engineering
CHBE 305 Computational Methods for Chemical Engineers
CHBE 310 Introduction to Biomolecular Engineering
CHBE 343 Chemical Engineering Lab I
CHBE 390 Kinetics and Reactor Design
CHBE 401/402 Transport Phenomena I and II
CHBE 403 Design Fundamentals
CHBE 404 Product and Process Design
CHBE 411/412 Thermodynamics I and II
CHBE 443 Chemical Engineering Lab II
CHBE 470 Process Dynamics and Control

Mathematics

MATH 1 101/102 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
Students pursuing the BA degree in chemical engineering must meet all of the requirements for the BSChE degree with the following exceptions: CHBE 404 and 470 are not required. Also, they do not have to satisfy the requirements for either the engineering breadth or the focus area. Free electives may be substituted for these requirements 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 CHBE 301**
- MATH 101/102
- CHEM 121/122 or CHEM 151/152
- Corequisite: CHBE 303

**For CHBE 303**
- Corequisite: CHBE 301

**For CHBE 305**
- CHBE 301 and 303

**For CHBE 310**
- CHBE 301, 390, and 411

**For CHBE 343**
- CHBE 390, 401, and 412

**For CHBE 390**
- CHBE 301, 303 and 305
- MATH 211/212

**For CHBE 401**
- CHBE 411
- MATH 211/212

**For CHBE 402**
- PHYS 101/102
- Co/Prerequisite: CHBE 305

**For CHBE 403**
- CHBE 401
- Co/Prerequisites: CAAM 336 or MATH 381

**For CHBE 404**
- CHBE 390, 402, and 412
- Co/Prerequisites: CHBE 470 and MECH 211

**For CHBE 411**
- CHBE 301 and 303

**For CHBE 412**
- CHBE 411

**For CHBE 413**
- CHBE 343

**For CHBE 443**
- CHBE 343

**For CHBE 470**
- CHBE 390, 402, and 412

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

For general university requirements, see Graduate Degrees (pages 61–62).

**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 (2 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:
- Satisfactorily complete 36 semester hours of advanced course work, including both general and specialized topics (students who already have an MS degree in chemical engineering can request departmental approval for a reduction in the number of required courses)
- Pass written examinations demonstrating a general understanding of reaction engineering, thermodynamics, transport phenomena, and applied mathematics
• Prepare and present a thesis proposal
• Complete a publishable thesis representing research that is an original and significant contribution to the field of chemical and biomolecular engineering
• Pass a public oral examination in defense of the thesis
• Fulfill a residency requirement
• Complete a teaching assignment

See CHBE in the Courses of Instruction section.
CHEMISTRY

THE WIESS SCHOOL OF NATURAL SCIENCES

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Seiichi P. T. Matsuda

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Andrew R. Barron
W. Edward Billups
Philip R. Brooks
Vicki L. Colvin
Paul S. Engel
Naomi Halas
John S. Hutchinson
Andreas Lüttge
Ronald J. Parry
Matteo Pasquali
Gustavo E. Scuseria
James M. Tour
R. Bruce Weisman
Kenton H. Whitmire
Lon J. Wilson
Boris I. Yakobson

Professors Emeriti
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James L. Kinsey
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Associate Professors
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Jason H. Hafner
Jeffrey D. Hartgerink
Anatoly Kolomeisky
Michael S. Wong

Assistant Professors
Zachary Ball
Michael Diehl
Stephan Link
Angel A. Marti
Junrong Zheng
Eugene Zubarev

Adjunct Professors
Anikó Bezúr
Paul Cherukuri
Marco Ciufolini
Tohru Fukuyama
Scott Gilbertson
Peter Harland
Dieter Heymann
Michael Metzker
M. Robert Willcott

Laboratory Coordinator
Mary E. R. McHale

Lecturer
Lawrence B. Alemany

Instructors
Brian Dupre
Margaret H. Hennessy
Corina Rogge

Distinguished Faculty Fellows
Robert H. Hauge
Bruce R. Johnson

Faculty Fellow
Kristen Kulinowski

Degrees Offered: BA, BS, MA, PhD

The undergraduate BS degree program is designed as a rigorous program for preparing students for advanced work in chemistry or a related discipline. The BA degree program is designed with a broader and more flexible program that can more easily be coupled with other majors or professional career paths. Both degree programs offer students a solid background in the fundamental principles of chemistry, the properties and reactions of chemical compounds and their uses.

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; supramolecular chemistry, molecular recognition, and biological catalysis; bioinorganic and organometallic chemistry; main group element and transition metal chemistry; the chemistry of the main group elements; 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 16–19). 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 Required of All Chemistry Majors**

**Chemistry**
- CHEM 121/123 *General Chemistry I* with laboratory or CHEM 151/153 *Honors Chemistry I* with laboratory
- CHEM 122/124 *General Chemistry II* with laboratory or CHEM 152/154 *Honors Chemistry II* with laboratory
- CHEM 211/212 *Organic Chemistry* or CHEM 251/252 *Honors Organic Chemistry*
- 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
- 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)

**Physics**
- PHYS 101 or 111 *Mechanics*
- PHYS 102 or 112 *Electricity and Magnetism*

**Other**
- One course from the following: NSCI 230, CAAM 210, CAAM 335, CAAM 336, CAAM 353, CHBE 305, or approved 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.

**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 4 advanced laboratory module credit hours from the following list:
  - CHEM 372 *Advanced Module in Synthesis and Characterization of Fullerene Compounds*
  - CHEM 373 *Advanced Module in Chemistry and Properties of Fullerene Compounds*
  - CHEM 374 *Advanced Module in Synthetic Chemistry*
  - CHEM 375 *Advanced Module in Nanochemistry*
  - CHEM 378 *Advanced Module in Plant Natural Products Biochemistry*
  - CHEM 381 *Advanced Module in Experimental Physical Chemistry*
  - CHEM 382 *Advanced Module in Kinetic Physical Chemistry*
  - CHEM 384 *Advanced Module in Instrumental Analysis*
  - CHEM 395 *Advanced Module in Green Chemistry*
  - CHEM 399 *Advanced Module: Experimental Design*
  - CHEM 435 *Methods of Computational Quantum Chemistry*

  (CHEM 215 may substitute for one Advanced Laboratory Module)
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. Students interested in applying for health professions programs are advised to take CHEM 215 (consult with the health professions advisor). Three hours of CHEM 491 (taken for 1 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 65 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**

In addition to the core courses required of all chemistry majors, the BS degree requires the following course and laboratory work:

- 1 additional course from the **Additional Lecture Courses** list
- At least 3 semester hours in undergraduate research (CHEM 491) in a single semester. With departmental approval, students may satisfy this requirement with HONS 470/471, which requires participation in CHEM 491 meetings. Students also may 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 advisor approval.

PHYS 201 *Waves and Optics* and PHYS 202 *Modern Physics* are recommended but not required.

Students in the chemistry BS major must satisfy the distribution requirements (see pages 17–18) and complete no fewer than 60 semester hours in addition to the departmental requirements for the chemistry major, giving a minimum total of 127 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
- 3 hours (in addition to the 6 hours required for the BS degree) 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:
Core Courses Required of All Chemical Physics Majors

**Chemistry**
CHEM 121/123 *General Chemistry I* with laboratory or CHEM 151/153 *Honors Chemistry I* with laboratory
CHEM 122/124 *General Chemistry II* with laboratory or CHEM 152/154 *Honors Chemistry II* with laboratory
CHEM 211 *Organic Chemistry* or CHEM 251 *Honors Organic Chemistry*
CHEM 311/312 *Physical Chemistry*

**Physics**
PHYS 101 or 111 *Mechanics*
PHYS 102 or 112 *Electricity and Magnetism*
PHYS 201 *Waves and Optics*
PHYS 202 *Modern Physics*
PHYS 231 *Elementary Physics Lab II*
PHYS 301 *Intermediate Mechanics*
PHYS 302 *Intermediate Electrodynamics*

**Mathematics**
MATH 101/102 *Single Variable Calculus I and II*
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**
1 course from CHEM 212 or CHEM 360
2 courses from PHYS 311, PHYS 312, CHEM 430, or CHEM 415
6 hours from CHEM 215, CHEM 351, CHEM 352, CHEM 353, CHEM 372–395, CHEM 435, PHYS 331, or PHYS 332. Up to 2 hours of independent research (CHEM 491 or PHYS 491/492 may be counted toward this requirement.)
6 credit hours from NSCI 230, CAAM 210, or mathematics or computational and applied mathematics at the 300 level or above

**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 in significantly less time after receiving their BS degree.

Students wishing to be considered for the accelerated BS/PhD program should contact the chemistry department graduate admissions committee.

**Degree Requirements for MA and PhD in Chemistry**
For general university requirements, see Graduate Degrees (pages 61–62). 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 (page 60).

**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 1 of the graduate seminar classes offered by the department (currently CHEM 600) each semester that the student is in residence.
Teaching
Each graduate student is required to participate in teaching (CHEM 700) for 3 semesters. Actual assignments are determined by departmental needs.

Requirements for the MA in Chemistry
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 thesis defense
Students who are admitted to PhD candidacy may apply for an automatic master's degree.

Requirements for the PhD in Chemistry
PhD Program—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, 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.

Coursework—The student must complete 6 3-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.
- Chemistry courses 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 toward 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 2 courses can be repeated/replaced.

Qualifying Examination—The qualifying exam has written and oral components, and the expectations for these are available in the department office. The examination committee will be composed of 3 faculty members, excluding the research advisor. The written document must be submitted to the committee at least one week before the date of the oral examination. The examination must be taken by the last day of class at the end of the student’s fourth semester in residency. Any follow-up work deemed necessary by the committee must be completed by the appointed date.

Advancement to Candidacy for the PhD—The course and examination requirements listed above must be completed within 2 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 3 faculty members
with the guidance and approval of the research advisor and department chair. The thesis committee must include one faculty member holding his/her primary appointment outside of the chemistry department.

**Satisfactory Performance**

In order to remain in good standing, a student must receive grades above B- in CHEM 600, CHEM 700, and CHEM 800. A student must maintain a GPA of 3.00 (B) or higher in all lecture courses. Failure to maintain satisfactory grades and sufficient progress in research will result in probation and possible dismissal.

Students are expected to perform satisfactorily in research as judged by their research director and thesis committee. Students also may be requested to fulfill certain service functions for the department. The student must be enrolled full time in a departmentally approved research group each semester that the student is in residence (except the first semester).

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

**Appeal**

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

See CHEM in the Courses of Instruction section.
Civil and Environmental Engineering

The George R. Brown School of Engineering

Chair
Pedro Alvarez

Professors
Philip B. Bedient
Satish Nagarajah
Pol D. Spanos
Mason B. Tomson
Calvin H. Ward

Associate Professor
Robert Griffin

Professors Emeriti
Ahmad J. Durrani
John E. Merwin
Ronald P. Nordgren
Anestis S. Veletsos

Assistant Professors
Daniel S. Cohan
Leonardo Dueñas-Osorio
Qilin Li
Jamie Padgett

Adjunct Professors
Jean-Yves Bottero
Wei Chen
Joseph Hughes
Pat H. Moore
Charles J. Newell
Carroll Oubre
Jerome Rose
Baxter Vieux
Mark R. Wiesner

Adjunct Assistant Professor
Karen Duston

Professors of the Practice in Civil Engineering

Management
Joseph Cibor
Ed Segner, III

Professor in the Practice of Environmental Law
James B. Blackburn

Lecturers
Phillip deBlanc
Moyeen Haque
John M. Sedlak

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

Civil and environmental engineering (CEE) 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 environmental engineering sciences (BA), or complete a double major with any other Rice University major. One nonthesis graduate degree (MEE) is available to students who desire additional education and specialization in civil engineering, environmental engineering, or environmental sciences. Joint MBA/Master of Engineering degrees also are 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 (CEE) offers an innovative and challenging BS engineering curriculum that is designed to provide significant flexibility to the student. Specific details and typical course layouts by semester can be found at the departmental website: ceve.rice.edu.

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

- 6 core courses (21 hours) primarily aimed at introduction to civil and environmental engineering, followed by 10 courses (30 hours) that represent the 4 thrust areas within CEE, with at least 4 courses from one thrust area.
The total required CEE courses are kept to a minimum level of 51 hours to provide maximum flexibility to the student.

The thrust areas include (1) environmental engineering (air and water quality, transport theory, modeling, and energy); (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, urban systems, soil mechanics, engineering economics, management)

A choice of free electives (18 hours) to allow maximum flexibility for students to choose from an approved list of courses

General science (39 hours) courses cover mathematics, physics, and chemistry

Distribution (24 hours) courses as per university requirements

A 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 CEE primarily targeted at students with diverse science, engineering, and humanities backgrounds (CEVE 101, 201, 203, 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) (CEVE 315) 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. (see ceve.rice.edu)

Course Requirements

**General Science Requirements (or an equivalent approved course)**

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

**CEE Core Requirements (21 credits)**

CEVE 101 (F) Fundamentals of CEE (3)
CEVE 203 (F) Environmental Eng. Processes (3)
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 402 Environmental Engineering Lab
CEVE 480 (S) Senior Design Project (4)

**Area I Environmental Engineering (select 6 approved hours)**

CEVE 307 (S) Energy and the Environment
CEVE 401 (F) Environmental Chemistry (3)
CEVE 402 (F) Environmental Chemistry Lab (1)
CEVE 406 (S) Environmental Law (3)
CEVE 411 (S) Atmospheric Processes (3)
CEVE 434 (F) Fate and Transport of Contaminants in the Environment (3)

Or any approved environmental course in CEE/CENG

**Area II Hydrology and Water Resources (select 6 approved hours)**

CEVE 412 (S) Hydrology and Watershed Analysis (3)
CEVE 418 Quantitative Hydrogeology
CEVE 450 (S) Remote Sensing (3)
CEVE 451 (F) Analysis of Environmental Data (3)
CEVE 453 (F) Geographical Information Science (3)
ABET Program Objectives

(See website at ceve.rice.edu/ for additional information.)

1. Develop/demonstrate strong problem-solving and communication skills
2. Achieve leadership position in technical or managerial area
3. Demonstrate initiative and innovative thinking in project work
4. Maintain a keen awareness of ethical, social, environmental, and global concerns
5. Remain engaged in continuing learning, including advanced degrees
6. Prepare for a Professional Engineering License

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 CEE departmental advisor. An advisor will be assigned by the CEE department chair, normally during the 1st year of study. Five core courses, plus 7 courses in a focused specialty area (see below for example curricula) of study are required; total CEE requirements approximately 39 hours. 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 on focus), economics, business MBA, political science, law, or medicine. Select students will be invited to finish an accelerated MS/PhD degree in the CEE 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 CEE.

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 courses from approved electives, including 4 courses from 1 specific focus area; 4 of these 7 courses must be 300, or above, and 2 of these upper-division courses must be from the CEE curriculum.

**Typical “focus specialty areas” might include (subject to advisor approval):**

1. Environmental Engineering: CEVE 307, 406, 411, 434; CEVE 451 plus 3 approved electives
2. Earth Science: ESCI 101, 321, 322, 353, CEVE 308, 406, 411
3. Biology: BIOS 201, 202, 211, 301, CEVE 308, 406, 411
4. Chemical Engineering: CENG 301, 390, 401, 402; CEVE 411, 434, 443
5. Chemistry: CHEM 211, 212; CEVE 406, 511 plus 3 approved electives
6. Economics: ECON 211, 212, 370, 450, 461; CEVE 406, 411
7. Management: ECON 211, 212, 461; ACCO 305; POLI 336; CEVE 406, 411

Engineers Without Borders (EWB) (CEVE 315) is an important component of the CEE 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 CEE departmental advisor. An advisor will be assigned by the CEE 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 hours. A student must demonstrate proficiency in the basic concepts of mathematics, computation, chemistry, and physics. Generally, this will require 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 73 hours of electives (distribution courses 24 hours and remaining open or free electives 49 hours). 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.
Required general math and science courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</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>
<tr>
<td>One of [COMP 110, CAAM 210, CAAM 335]</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>One of [BIOS 122, CHEM 121/122, ELEC 242, MECH 200, MSCI 301]</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

* or equivalent

Total: 21 hrs

Required core civil engineering courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEVE 101</td>
<td>Fundamentals of CEE</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>
</tbody>
</table>

CEVE 312 Strength of Materials 1*
CEVE 371 Fluid Mechanics 3

* Laboratory

Total: 13 hrs

Any 4 civil engineering courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</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>Basic Soil Mechanics</td>
<td>4</td>
</tr>
</tbody>
</table>

Total: 12 hrs

Engineers Without Borders (EWB) (CEVE 315) is an important component of the CEE 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.

Degree Requirements for MCEE, 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 61–62).

MS Program—The Master of Science degree is offered in both civil engineering and environmental engineering. For general university requirements, see Graduate Degrees (pages 61–62). To earn a MS degree, students must:

- Complete at least 24 semester hours of approved courses. For students studying environmental engineering, this must include 1 course each in environmental chemistry, water treatment, hydrology, and air quality. For students studying civil, structural engineering, and mechanics, this must include 1 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 2 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.

MBA/MCEE Program—For general university requirements, see Graduate Degrees (pages 61–62). See also Management and Accounting (pages 216–227). To earn a MBA/MCEE degree, students must:

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

MCEE Program—The Master of Civil and Environmental Engineering (MCEE) 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 61–62).

PhD Program—To earn a PhD degree, candidates must successfully accomplish the following (spending at least 4 semesters in full-time study at Rice). (See candidacy, oral examinations, and the thesis pages 70–72).

- 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 2 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. As part of the advanced degree training, we also may require students to assist the faculty in undergraduate courses and laboratory instruction.
The classical department 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. With this in mind, the classics department provides maximum flexibility without sacrifice of focus. We cater to students who wish to prepare for graduate school in classics and also to students who are interested in Greek and Roman culture for other reasons and 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.

The classics department offers 2 tracks to satisfy the requirements for a BA (specific information below): the classics track emphasizes the ancient languages and reading classical texts in the original; the classical civilizations track allows for a broader set of approaches and does not include a language requirement.

Classical studies majors, in either track, will, if they wish, have the opportunity to engage in research. In the final semester of study, a student may enroll in CLAS 493, in which the student writes a senior thesis on a topic of the student’s choice in consultation with a faculty member.

The classics department also offers a program in the Classical Legacy. Using courses in translation, this program makes classical antiquity accessible to a wide range of students and offers those students basic knowledge of major trends in Western intellectual and cultural history. Courses offer grounding in classical literature, art, thought, and history and relate classical culture to later attempts in post classical and contemporary cultures to assimilate, emulate, and recreate classical models. A highlight of the Classical Legacy program is CLAS 321, a 2-week study-trip to Rome at the end of the spring semester, organized and run by Rice professors for Rice students. For current information on the Classical Legacy program and the study-trip to Rome, consult the website: classicallegacy.rice.edu/.
Further information on the department, its courses, its faculty members, and its events is available on the web: classics.rice.edu/.

Policy on Advanced Placement credit: For the exam on “Latin Literature,” new matriculants who score 4 receive 3 hours credit for LATI 104 and new matriculants who score 5 receive 3 hours credit for LATI 204 and D1 distribution credit. For the exam on “Latin: Virgil,” new matriculants who score 4 receive 3 hours credit for LATI 104 and new matriculants who score 5 receive 3 hours credit for LATI 202 and D1 distribution credit.

**Degree Requirements for BA in Classical Studies**

For general university requirements, see Graduation Requirements (pages 16–19).

Students majoring in classical studies may complete either of 2 tracks.

For the classics track, students must complete 30 semester hours (10 courses) listed under Greek, Latin, or Classics, including at least 2 of the following 3 courses:

- **CLAS 107 Greek Civilization and Its Legacy**
- **CLAS 108 Roman Civilization and Its Legacy**
- **CLAS 235 Classical Mythology: Interpretation, Origins, and Influence**

and at least 9 hours (3 courses) in either Greek or Latin at the 300 level or higher.

For the classical civilizations track, students must complete 30 semester hours (10 courses) listed under Greek, Latin, or Classics, including at least 2 of the following 3 courses:

- **CLAS 107 Greek Civilization and Its Legacy**
- **CLAS 108 Roman Civilization and Its Legacy**
- **CLAS 235 Classical Mythology: Interpretation, Origins, and Influence**

Some courses in ancient philosophy, history, art history, and religion offered by the departments of Philosophy, History, Art History, and Religious Studies also satisfy requirements for either track of the classical studies major. For advice on which courses do this, consult the undergraduate advisor.

See CLAS, GREE, and LATI in the Courses of Instruction section.
Cognitive Sciences

The School of Social Sciences

Degree Offered: BA

Researchers in this interdisciplinary 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 16–19). 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 1 or more of the following courses during their 1st and 2nd 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 1 or 2 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 2-semester project will be allowed to continue into the 2nd semester only if their advisor judges that sufficient progress has been made during the 1st 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 toward 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 1st week of classes. All students taking CSCI390 also must 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 5 groups. Majors just take one course from each group.

**Computer Science**

*Though all of these courses may be used to satisfy the computer science core requirements, no more than 1 may be taken for credit within the major*

- CAAM 210 Introduction to Engineering Computation
- COMP 200 Elements of Computer Science
- COMP 201 Principles of Object-Oriented Programming
- COMP 210 Introduction to Principles of Scientific Computation

**Philosophy**

- PHIL 103 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

**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

**Linguistics**

**Computer Science**

- 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 304 Introduction to Syntax
- LING 306 Language and the Mind

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At least 3 and no more than 4 courses must be in 1 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**

- CCSCI 390 Supervised Research in Cognitive Science
- CSCI 481 Honors Project
- CSCI 482 Honors Project

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The core courses are divided into 5 groups. Majors just take one course from each group.

**Computer Science**

*Though all of these courses may be used to satisfy the computer science core requirements, no more than 1 may be taken for credit within the major*

- CAAM 210 Introduction to Engineering Computation
- COMP 200 Elements of Computer Science
- COMP 201 Principles of Object-Oriented Programming
- COMP 210 Introduction to Principles of Scientific Computation

**Philosophy**

- PHIL 103 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

**Psychology**

- PSYC 203 Introduction to Cognitive Psychology

**Linguistics**

- LING 200 Introduction to the Scientific Study of Language
- LING 306 Language and the Mind

---

At least 3 and no more than 4 courses must be in 1 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**

- CCSCI 390 Supervised Research in Cognitive Science
- CSCI 481 Honors Project
- CSCI 482 Honors Project
LING 311 Phonology
LING 315 Semantics
LING 317 Language and Computers
LING 402 Syntax and Semantics
LING 403 Foundations of Modern Linguistics
LING 404 Research Methodologies and Linguistic Theories
LING 405 Discourse Analysis
LING 411 Neurolinguistics
LING 412 Language and Intelligence

**Neuroscience**
Many of the neuroscience courses are taught by Baylor College of Medicine faculty.
For more information, see http://www.ruf.rice.edu/~neurosci/neurocoursesmain.html.
BIOS 421 Neurobiology
CAAM 415 Theoretical Neuroscience
ELEC 481 Fundamentals of Systems Physiology and Biophysics
LING 411 Neurolinguistics
PSYC 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 (1st semester)
NEUR 512 Integrative Neuroscience Core Course (2nd 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
COMPUTATIONAL AND APPLIED MATHEMATICS

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DEGREES OFFERED: BA, MCAM, MCSE, MA, PhD

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 4 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 of parallel and vector capabilities and a range of subjects including visualization, networking, and programming environments. An awareness of a variety of new algorithms and analytic techniques also is essential to maximizing the power of the new computational tools.
A joint MBA/Master of Engineering degree also is 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 16–19). Students majoring in computational and applied mathematics are required to complete the 52 semester hours spelled out in the following program of study.

**Introductory Courses:** Typically completed during the 1st 2 years

- MATH 101 *Single Variable Calculus I*
- MATH 102 *Single Variable Calculus II*
- MATH 212 *Multivariable Calculus+
- COMP 110 *Computation in Science and Engineering*

*Students with prior experience with calculus and/or computational science may petition the department for a waiver.

+Students may substitute Honors Calculus sequence (MATH 221, 222) for MATH 212.

Entering students should enroll in the most advanced course commensurate with their background; advice is available from the CAAM department during Orientation Week.

**Intermediate Courses:** Typically completed by the end of the 3rd year

- CAAM 336 *Differential Equations in Science and Engineering*
- (or STAT 310 *Probability and Statistics* or STAT 331 *Applied Probability*)
- CAAM 378 *Introduction to Operations Research and Optimization*
- CAAM 401 *Analysis I*
- CAAM 402 *Analysis II*

**Advanced Courses:** Typically completed during the 4th year

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

**Design Project:** Typically completed during the 4th year

- CAAM 495 *Senior Design Project I*
- CAAM 496 *Senior Design Project II*

**Electives:** 4 courses at 300 level or above; 2 of which must be at the 400-level or above (chosen in consultation with a 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 *Integration Theory*
- 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 61-62) and Admission to Graduate Study (page 60).

Applicants should be aware that it normally takes 2 years to obtain a master’s degree and an additional 2 to 4 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 and Biomolecular 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 1 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 1 scientific or engineering area. For general university requirements, see Graduate Degrees (pages 61–62).

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.

**Required Courses**
- CAAM 420 *Computational Science I* (taken as soon as possible)
- CAAM 520 *Computational Science II* (taken as soon as possible)
- CAAM 551 *Numerical Linear Algebra*

**1 course from the following**
- COMP 412 *Compiler Construction*
  (or ELEC 425 *Computer Systems Architecture*)
- CAAM 452 *Numerical Methods for Differential Equations*
- CAAM 453 *Numerical Analysis I*
- CAAM 454 *Numerical Analysis II*
- CAAM 464 *Numerical Optimization*

**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

**PhD Program**—Study at the doctoral level seeks to advance the field through original research. For general university requirements, see Graduate Degrees (pages 61–62). 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
• 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

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Kartik Mohanram
Lin Zhong

WITH MECHANICAL ENGINEERING

ASSISTANT PROFESSOR
Marcia K. O’Malley

WITH CHEMISTRY

PROFESSOR
James Tour

RESEARCH PROFESSOR
Peter Druschel
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 century. Students in computer science at Rice benefit from the latest in equipment and ideas as well as the flexibility of the educational programs. The research interests of the faculty include algorithms and complexity, artificial intelligence and robotics, compilers, distributed and parallel computation, graphics and visualization, operating systems, and programming languages.

The department offers 2 undergraduate degrees: the Bachelor of Arts degree (BA) and the Bachelor of Science in Computer Science degree (BSCS). The department offers 2 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 also is 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 16–19). 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 math and science courses; computer science core courses, including introductory courses and upper-level courses ensuring knowledge in a broad range of areas; and computer science electives, which give students the freedom to explore specific interests. Students earning a BA in computer science must complete at least 58 semester hours of courses in the major and at least 120 semester hours in total.

Math and Science Courses

Six courses for a total of 18 hours, required for all majors, usually taken in the freshman and sophomore years:

- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- One of: MATH 211 Ordinary Differential Equations and Linear Algebra or MATH 221 Honors Calculus III
- One of: MATH 212 Multivariable Calculus or MATH 222 Honors Calculus IV
- One of: STAT 331 Applied Probability or STAT 310 Probability and Statistics
- One of: MATH 355 Linear Algebra or MATH 354 Honors Linear Algebra or CAAM 335 Matrix Analysis
Computer Science Core Courses

Nine courses for a total of 34 hours.

One of: COMP 140 An Integrated Introduction to Computation and Problem Solving
or COMP 160 Introduction to Computer Gaming
or COMP 170 Computational Thinking in Biology

COMP 211 Principles of Program Design

ELEC 220 Fundamentals of Computer Engineering

COMP 221 Introduction to Computer Organization

COMP 280 Mathematics of Computer Science

COMP 314 Applied Algorithms and Data Structures

One of: COMP 311 Programming Languages
or COMP 412 Compiler Construction

COMP 421 Operating Systems and Concurrent Programming

One of: COMP 481 Automata, Formal Languages, and Computability
or COMP 482 Design and Analysis of Algorithms

Computer Science Electives

Two courses for a total of at least 6 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 previously described requirements of the BA degree, plus the following additions. Students earning a BS in computer science must complete at least 80 semester hours of courses in the major and at least 128 semester hours in total.

Additional Math and Science Courses

Two courses for a total of at least 7 hours.

One of: PHYS 101 Mechanics
or PHYS 111 Mechanics
or PHYS 125 General Physics

One of: PHYS 102 Electricity and Magnetism
or PHYS 112 Electricity and Magnetism
or PHYS 126 General Physics II

Capstone Sequence

At least four courses for a total of at least 15 hours:

A coherent set of courses in some computer science specialization and including a design component (one of COMP 402 Production Programming, COMP 410 Software Engineering Methodology, COMP 460 Advanced Computer Game Creation). Students can adopt a preset cap or design their own, with advisor approval. Samples are listed on the department’s website.

Degree Requirements for MCS and MS in Computer Science

For general university requirements, see Graduate Degrees (pages 61–62). 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 advisor. In general, the courses must be at the 400 level or above. At least 4 hours must be at the 500 level or above, excluding COMP 590.
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 4 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 4 to 6 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 3rd semester
- Complete a master's thesis by the end of the 5th 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 7 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 1st 3 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

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Yitian Xiao

Earth Science Research Scientists
Rolf Arvidson
Glen Snyder

Earth Science Lecturers
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Stephen H. Danbom
Alison T. Henning
W.C. Rusty Riese

Earth Science Postdoctoral Research Associates
William Hockaday
Tobias Hoeink
Peter Luffi
Meghan Miller
Bing Shen

Earth Science Joint Appointments
(with Chemistry)
Andreas Luttge

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 a course in geological field techniques and 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 5 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 advisor. 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 16–19).

BS majors also must 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

Additional Requirements for the Geology Track

The following courses are required:

- MATH 211 Ordinary Differential Equations and Linear Algebra
- ESCI 390 Geology Field Camp
- ESCI 442 Exploration Geophysics I

Choose one of the following courses:

- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- 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 Paleogeography

Choose one of the following courses:

- ESCI 418 Quantitative Hydrogeology
- ESCI 463 Advanced 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
- ESCI 390 Geology Field Camp or ESCI 391 Earth Science Field Experience

Choose 9 hours from the following:

- ESCI 340 Global Biogeochemical Cycles
- ESCI 412 Advanced Petrology
- ESCI 421 Paleogeography
- ESCI 425 Organic Geochemistry
- ESCI 458 Thermodynamics/Kinetics for Geoscientists
- ESCI 203 Biogeochemistry

Choose 8 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
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*
- ESCI 390 *Geology Field Camp* or
- ESCI 391 *Earth Science Field Experience*

Choose one of the following courses:
- COMP 110 *Computation in Natural Science*
- CAAM 210 *Introduction to Engineering Computation*
- COMP 210 *Principles of Computing and Programming*

Choose 6 hours from the following:
- ESCI 418 *Quantitative Hydrogeology*
- ESCI 440 *Geophysical Data Analysis: Digital Signal Processing*

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*

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*
- COMP 210 *Principles of Computing and Programming*

Choose 11 hours from the following, including at least two courses in ESCI:
- ESCI 340 *Global Biogeochemical Cycles*
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
- MATH 211 Ordinary Differential Equations and Linear Algebra
- PHYS 101/102 or 125/126 Introductory Physics
- COMP 110 Computation in Natural Science

Choose 6 hours from the following:

- BIOS 201 Introductory Biology I
- COMP 110 Computation in Natural Science
- CAAM 210 Introduction to Engineering Computation
- COMP 210 Principles of Computing and Programming
- CHEM 211 Organic Chemistry
- PHYS 201 Waves and Optics

Choose 12 hours from the following:

- CHEM 331/332 Physical Chemistry I and II
- MATH 211 Ordinary Differential Equations and Linear Algebra
- PHYS 201 Waves and Optics
- PHYS 203 Atmosphere, Weather, and Climate
- ESCI 390 Geology Field Camp or
- ESCI 391 Earth Science Field Experience

Choose 6 hours from the following:

- BIOS 201 Introductory Biology I and II
- MATH 211 Ordinary Differential Equations and Linear Algebra
- PHYS 101/102 or 125/126 Introductory Physics
- COMP 110 Computation in Natural Science

Choose 4 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 28).

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 61–62). 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 2 years beyond the bachelor's degree to complete the MS and at least 2 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
Mahmoud El-Gamal

ASSOCIATE PROFESSORS
Richard Boylan
Anna Bogomolnaia
Marc Peter Dudey
Vivian Ho

PROFESSORS
Dagobert L. Brito
Bryan W. Brown
James N. Brown
John B. Bryant
Malcolm Gillis
Simon Grant
Peter Hartley
Peter Mieszkowski
Hervé Moulin
Robin C. Sickles
Ronald Soligo
Ted Temzelides
George R. Zodrow

ASSISTANT PROFESSORS
Camelia Bejan
Juan Carlos Cordoba
Borghan Narajabad

PROFESSORS EMERITI
Donald L. Huddle
Gordon W. Smith

ADJUNCT PROFESSORS
Bruce M. Lairson
John Michael Swint

ADJUNCT ASSOCIATE PROFESSOR
Charles E. Begley

ADJUNCT ASSISTANT PROFESSOR
John Diamond
Kenneth Medlock

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 8 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.

REQUIREMENTS FOR MAJORING IN ECONOMICS

1. All economics majors must complete a minimum of 10 courses with a grade point average of at least 2.0. When students repeat courses or complete more than the minimally required number of courses, the departmental GPA will be based on the set of courses that (i) satisfies all requirements for the degree and (ii) results in the highest GPA for the student. Major requirements are not reduced for multiple majors, although some courses can satisfy the requirements for more than 1 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 370 Microeconomic Theory
   - ECON 375 Macroeconomic Theory
   - STAT 280 Elementary Applied Statistics (or STAT 310/ECON 382)
   - ECON 446 Applied Econometrics (or ECON 400).
Please note that ECON 370 requires MATH 101 (or both MATH 111 and 112) as prerequisites. We suggest that economics majors take ECON 211, ECON 370, MATH 101, STAT 280 (or STAT 310/ECON 382), and ECON 446 (or ECON 400) as early as possible. Please note that failure to take prerequisite courses in earlier years may cause scheduling problems in later years.

3. Given that item 2 has been satisfied, the 5 remaining required economics courses must be selected from the following:

ECON 250 Foundations of Public Sector Economics  
ECON 250 World Economy and Social Development  
ECON 340 Introduction to Game Theory  
ECON 340 Introduction to Game Theory  
ECON 348 Organization Design  
ECON 348 Organization Design  
ECON 355 Financial Markets  
ECON 355 Financial Markets  
ECON 400 Econometrics  
ECON 400 Econometrics  
ECN 403/404 Senior Independent Research  
ECN 403/404 Senior Independent Research  
ECON 415 Labor Economics  
ECON 415 Labor Economics  
ECON 420 International Trade  
ECON 420 International Trade  
ECON 421 International Finance  
ECON 421 International Finance  
ECON 435 Industrial Organization  
ECON 435 Industrial Organization  
ECON 436 Regulation  
ECON 436 Regulation  
ECON 437 Energy Economics  
ECON 437 Energy Economics  
ECON 438 Business, Law, and Economics  
ECON 438 Business, Law, and Economics  
ECON 439 Torts, Property, and Contracts  
ECON 439 Torts, Property, and Contracts  
ECON 440 Advanced Game Theory  
ECON 440 Advanced Game Theory  
ECON 445 Managerial Economics  
ECON 445 Managerial Economics  
ECON 448 Corporate Finance  
ECON 448 Corporate Finance  
ECON 449 Basics/Financial Engineering  
ECON 449 Basics/Financial Engineering  
ECON 450 World Economy and Social Development  
ECON 451 Economy of Latin America  
ECON 452 Religion, Ethics, and Economics  
ECON 455 Money and Financial Markets  
ECON 461 Urban Economics  
ECON 475 Integer and Combinatorial Optimization  
ECON 477 Mathematical Economics  
ECON 479 Applied General Equilibrium Modeling  
ECON 480 Environmental Economics  
ECON 481 Health Economics  
ECON 482 Distributive Justice  
ECON 483 Public Finance Tax Policy  
ECON 484 Public Finance Expenditure  
ECON 485/486 Contemporary Economic Issues  
ECON 495/496 Senior Seminar

4. No more than 3 of the 10 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. AP credits do not count against the 3 allowed transfer credits. In order to transfer ECON 211, the student must pass a qualifying examination. Students wishing to take the ECON 211 qualifying examination must apply to the economics department office in Baker Hall 266A. For additional information on transfer credits, consult “Procedures for Transfer Credit,” available in the economics department office.

5. Students may graduate with honors in economics by achieving a B+ (3.33) average in all economics courses and completing 2 semesters of independent research (for details, consult Economics 403/404—Senior Independent Research, available in the economics department office).

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. Students are advised that the relevant departmental requirements are those in effect on the day that the student declares economics as their major. Consult with the appropriate departmental advisor, who must sign all registration forms for each major.
8. 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.

**Requirements for Majoring In Mathematical Economic Analysis**

1. The major in mathematical economic analysis (MTEC) is designed for students who are interested in either 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. All MTEC majors must complete a minimum of 16 courses in 6 areas with a grade point average of at least 2.00. These courses must include:

   (a) **5 courses in mathematics and statistics**
   - MATH 101 *Single Variable Calculus I*
   - MATH 102 *Single Variable Calculus II, and*
   - MATH 211 *Ordinary Differential Equations, or*
   - MATH 355 *Linear Algebra, or*
   - CAAM 335 *Matrix Analysis, and*
   - MATH 212 *Multivariable Calculus, or*
   - MATH 221 *Honors Calculus III, and*
   - ECON 382/STAT 310 *Probability and Statistics, or*
   - STAT 410 *Introduction into Regression and Statistical Computing, or*
   - STAT 431 *Overview of Mathematical Statistics*

   (b) **1 courses in econometrics:**
   - ECON 400 Econometrics

   (c) **4 courses in economic theory:**
   - ECON 211 *Principles of Economics I*
   - ECON 340 *Introduction to Game Theory*
   - ECON 370 *Microeconomic Theory*
   - ECON 375 *Macroeconomic Theory*
   - ECON 477 *Mathematical Structure of Economic Theory*

   (d) **4 courses in applied economics, selected from:**
   - ECON 301 *History of Economic Analysis*
   - ECON 348 *Organizational Design*
   - ECON 355 *Financial Markets*
   - ECON 415 *Labor Economics*
   - ECON 420 *International Trade*
   - ECON 421 *International Finance*
   - ECON 435 *Industrial Organization*
   - ECON 436 *Regulation*
   - ECON 437 *Energy Economics*
   - ECON 438 *Business, Law, and Economics*
   - ECON 439 *Torts, Property, and Contracts*
   - ECON 440 *Advanced Game Theory*
   - ECON 445 *Managerial Economics*
   - ECON 446 *Applied Econometrics*
   - 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 *Religion, Ethics, and Economics*
   - ECON 455 *Money and Financial Markets*
   - ECON 461 *Urban Economics*
   - ECON 475 *Integer and Combinatorial Optimization*
   - 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*
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, if those courses are taken after matriculation at Rice. 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 and credits awarded to transfer students for courses taken prior to matriculation at Rice are not counted against the limit on transfer courses, but all students must complete more than half of their upper-level major work at Rice. In order to transfer ECON 211, the student must pass a qualifying examination. Students wishing to take the ECON 211 qualifying examination must apply to the economics department office in Baker Hall 259. For additional information on transfer credits, consult “Procedures for Transfer Credit,” also 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. When students repeat courses or complete more than the minimally required number of courses, the departmental GPA will be based on the set of courses that (i) satisfies all requirements for the degree and (ii) results in the highest GPA for the student. However, when a course is taken both at Rice and at another institution, the Rice grade will be used for departmental GPA calculations.

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 the responsibility of the student to satisfy all degree requirements, including the university credit requirements and university distribution requirements specified in General Announcements. Students are advised that the relevant departmental requirements are those in effect on the day that the student declares mathematical economic analysis as their major. Consult with the appropriate departmental advisor, who must sign all registration forms for each major.

Concentration in Business Economics

Students who complete the requirement for a major in economics or a major in mathematical economic analysis also may request a certification from the department that they have completed the requirements for a concentration in business economics if they complete the following courses with minimum grade point average of at least 2.0:

1. ACCO 305 Introduction to Accounting

2. The following electives for the economics or mathematical economic analysis 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 committee 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
- ECON 504 for ECON 382
- ECON 510 for ECON 400
- Furthermore, ECON 505 and ECON 508 also may be taken by undergraduates and may be used toward satisfying MTEC requirements. Specifically, ECON 505 could be used as 1 of the courses in the applied economics category or in the advanced analysis category, while ECON 508 could be used only in the advanced analysis category.

Note that this set of substitutable graduate courses includes 6 of the 7 courses required during the 1st 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 also should open more opportunities for the student who will be seeking employment immediately after graduation.

The 5-Year MA Program

Advanced undergraduate students can, subject to the approval of the departmental 5-year MA advisor, enter our 5-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 advisor, the paper produced in ECON 403/404 may fulfill this requirement. Finally, the 1st-year graduate requirement to take ECON 507 Mathematical Economics would be waived with the approval of the departmental 5-year MA advisor.

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 1 additional year of research (but no additional courses) beyond the MA degree.

Students who opt for the 5-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 2 (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 5-year period.

**Courses: Sample Path One**

The student enters with AP credit for ECON 211 and MATH 101/102 and has an early interest in the 5-year MA program.

**Freshman Year**

ECON 370, 375, 477, and MATH 211/212

**Sophomore Year**

ECON 501; 1 course from Applied Economics category; and MATH 355 or CAAM 310

**Junior Year**

ECON 502, 504, 505, 510, and 1 course from Applied Economics category

**Senior Year**

ECON 403/404 and ECON 508

**5th Year**

Complete all remaining graduate courses and pass all remaining examinations required to achieve PhD candidacy.

(Note that with AP credit for MATH 101/102, but not for ECON 211, the student could substitute ECON 370 for ECON 211 in the freshman year.)

**Courses: Sample Path Two**

The student has no relevant AP credit and/or decides to enter the 5-year MA program only near the end of the sophomore year.

**Freshman Year**

ECON 211 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

**5th 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 2 semesters in calculus and 1 in linear algebra. Students who have not met these requirements may complete these prerequisites as Class III students (pages 81–82) 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 61–62). Candidates for the PhD degree usually spend from 2 to 2 and 1-half years in full-time course work and at least 1 year writing the dissertation;
4 to 5 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.*
EDUCATION

THE SCHOOL OF HUMANITIES

PROFESSOR
Linda M. McNeil

No degree is offered through the Department of Education. 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 3 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
Degrees Offered: Secondary Teaching Certificate in conjunction with BA in major field, MAT

Students in the teacher education program at Rice show a commitment to teaching, a strong record of scholarship in their subject areas, and promise as thoughtful, engaging teachers. The program emphasizes a sound liberal arts education; extensive knowledge of the subject(s) or area(s) to be taught; professional knowledge, including the relevant historical, philosophical, social, and psychological bases of education; and skills in classroom teaching, which include working with both children and adults. Graduates emerge from the program fully prepared for the teaching profession and knowledgeable about a multitude of teaching styles and methods to meet the needs of the diverse student population in schools today.

Rice offers 3 teacher education plans: (1) a secondary teaching certificate in combination with the undergraduate degree in the elected subject field(s), (2) a Master of Arts in Teaching (MAT), and (3) a postbaccalaureate plan for Class III students that involves taking those courses and state examinations needed for certification but that does not confer a degree. All 3 plans include student teaching in the Rice Summer School for Grades 8–12. While maintaining its academic integrity, the Rice program complies with state of Texas certification requirements. Students seeking additional information about the teacher education program are encouraged to meet with an advisor in the Department of Education Certification.

Texas Teaching Credential—Rice is approved by the state of Texas to offer teacher preparation programs in the following fields: art, English language arts and reading, French, German, health science technology education, history, Latin, life sciences, mathematics, physical education, physical science, physics/mathematics, science, social studies, and Spanish.

After satisfactory completion of the Rice program, which includes the state-mandated TExES, TOPT, and/or ExCET examinations, students are recommended for a Texas teaching credential. The Texas Education Agency then awards a Texas Standard Teaching Certificate (Grades 8–12).

Student Teaching—Apprenticeship (Plan A) and Internship (Plan B) programs are available. Unpaid apprenticeships are for undergraduates who
wish to complete the teacher education program in 4 years and 2 6-week summer sessions. Candidates enroll for the summer sessions following their junior and senior years. Apprentices create and teach courses under the supervision of experienced mentor teachers and university faculty in the Rice Summer School for Grades 8–12.

Paid internships are undertaken by Master of Arts in Teaching candidates, some Class III students, and undergraduates who begin earning certification in their senior year. Under this plan, students serve 1 apprenticeship in the Rice Summer School and then are supervised through their 1st semester of a full-time, paid internship in a neighboring, cooperating school system. Permission for the internship is contingent upon completing a successful apprenticeship.

Requirements for Secondary Teaching Certificate

Admission—Students may apply to the Rice University Department of Education Certification for admission to the teacher education program if they show:

• Attainment of junior standing at Rice (bachelor's degree for MAT and Class III candidates) by the semester of admission to the program
• Grades of C- or better in all semester hours attempted in their teaching field(s) and a grade point average of 2.5 or better, both in courses in their teaching fields and overall
• Evidence of adequate physical vigor to perform as a teacher in a classroom
• Exemption or satisfactory scores on all required preprofessional skills tests

A completed plan of study approved by department representatives and the major field advisor is required before admission to the program is complete.

Completion of Program—To complete the program, students must:

• Be exempted from or pass the Texas Higher Education Assessment (THEA) exam prior to enrolling in any education courses
• Complete the courses specified by the major field advisor(s). Lists of courses for each subject are available in the Education Certification Office
• Complete 18 hours in professional education courses as follows:
  Either EDUC 301/501 Philosophical, Historical, and Social Foundations of Education or EDUC 330/530 The American High School;
  EDUC 305/505 Educational Psychology;
  EDUC 420 Curriculum Development;
  3 hours in the appropriate seminar(s) in teaching methods; and 6 hours in student teaching (see following)
• Satisfy a state requirement for computer literacy by completing 3 credits in computer use. EDUC 345 Computers in Education is recommended
• Complete all university and program requirements specified for undergraduates, MAT candidates, or nondegree (Class III) candidates
• Make grades of C- or better in all teaching field courses and education courses (B- or better for MAT and Class III students)
• Pass appropriate TExES, TOPT, and/or ExCET exams
Apprenticeship Plan (Plan A)
(For students beginning certification in their junior year and for some Class III students)

Junior Year
EDUC 301 Philosophical, Historical, and Social Foundations of Education or EDUC 330 The American High School
EDUC 305 Educational Psychology
EDUC 410–416 Relevant seminar(s) in teaching methods
EDUC 420 Curriculum Development
EDUC 440 Supervised Teaching: Summer School

Senior Year
EDUC 420 Curriculum Development

After Graduation
EDUC 440 Supervised Teaching: Summer School

Internship Plan (Plan B)
(For students beginning certification in their senior year, some Class III students, and MAT students)

Before Graduation
EDUC 301/501 Philosophical, Historical, and Social Foundations of Education or EDUC 330/530 The American High School;
EDUC 305/505 Educational Psychology;
EDUC 410–416 Relevant seminar(s) in teaching methods; and
EDUC 420 Curriculum Development

After Academic Year
EDUC 440 Supervised Teaching: Summer School; and
EDUC 540 Internship (paid internship in the fall in a local, accredited secondary school)

Requirements for MAT

Admission—Applicants must have a bachelor’s degree, scholarly ability, and an interest in teaching, and they must have taken the Graduate Record Examination (GRE) aptitude test. Education faculty review each application. A limited number of tuition waivers is available. See Admission to Graduate Study (page 60). Admitted students must pass or be exempted from the state’s Texas Higher Education Assessment (THEA) exam prior to enrolling in any education courses.

Degree Requirements—For general university requirements, see Graduate Degrees (pages 61–62). The MAT is a nonthesis degree program for students who want to qualify for secondary school teaching following a liberal arts education. Most candidates entering the program have had no professional education courses. By completing the program, candidates fulfill all requirements for a Texas Standard Teaching Certificate for grades 8–12. To earn the MAT degree, students must complete, with grades of B- or higher, at least 33 semester hours (the need to remove deficiencies may require additional courses for certification) at the graduate level. Fifteen of the graduate credits must be at the 500 level. Requirements are as follows:

• Courses in secondary school educational theory, teaching strategies, educational practice, and evaluation
• Graduate or upper-level courses in the relevant teaching field(s) taken at Rice
• Supervised full-time teaching for 1 summer in the Rice Summer School for Grades 8–12, including design and implementation of courses, teaching, and evaluation
• Approval to begin an internship, based on a successful summer school teaching experience
• Supervised teaching internship for 1 semester in a cooperating accredited secondary school, including the accompanying seminar.

The cooperating school districts pay a regular salary for internship teaching, which covers the small cost of graduate tuition.

**Requirements for Class III Certification**

A nondegree (Class III) plan leading to secondary teacher certification is available for those who have earned a BA but do not choose to pursue a graduate degree. Candidates complete all requirements for secondary teacher certification, including professional education courses and courses in their selected fields. Interested students should contact the Department of Education Certification.

**Higher Education Act Title II Reports**

The Higher Education Act (HEA) of the U.S. Congress requires each institution of higher education with a teacher preparation program enrolling students receiving federal assistance under this act to report annually to the state and the general public certain information. This information consists of the pass rate of program completers on assessments required by the state for teacher licensure or certification, the statewide pass rate on those assessments, and other basic information on the teacher preparation program.

Rice University’s teacher education program is accredited by the state of Texas. The 1st year pass rate for program completers on assessments required by the state for 2005–06 was 100%, compared with 97% for the overall state pass rate. The combined cumulative pass rate for program completers on assessments required by the state for 2004–06 was 100%, compared to 97% for the overall state pass rate. Twenty-three students were enrolled in the program in 2006–07. The students spent an average of 40 hours per week in supervised student teaching with a student/faculty ratio of 1.7-to-1. Rice teacher education program graduates are regularly recruited by school districts in Houston and the surrounding areas because of their innovative ideas, content, expertise, leadership abilities, and dedication to the teaching profession.

*See EDUC in the Courses of Instruction section.*
The Department of Electrical and Computer Engineering (ECE) strives to provide high-quality degree programs that emphasize fundamental principles, respond to the changing demands and opportunities of new technology, challenge the exceptional abilities of Rice students, and prepare students for roles of leadership in their chosen careers. Undergraduate and graduate programs in ECE offer concentrations in areas that include system and control theory; communications; computer systems; signal processing; and photonics and nanoengineering. The latest information on the department’s faculty, research areas, and degree programs and requirements can be found on the ECE website: www.ece.rice.edu/.

**Undergraduate Degree Programs**

The department offers 2 undergraduate degrees, the bachelor of arts (BA) and the bachelor of science in electrical engineering (BSEE). The BA degree provides a basic foundation in electrical and computer engineering that the student can build on to construct a custom program. Because of its flexibility and large number of free electives, the BA can be easily combined with courses from other departments to create an interdisciplinary program. This may be
particularly appropriate for students planning further study in law, business, or medicine.

The BSEE degree is the usual degree taken by those students planning a career in engineering practice. It is accredited by the Accreditation Board for Engineering and Technology (ABET) and can thus reduce the time required to become a registered professional engineer. The program for the BSEE requires more hours and greater depth than the BA degree but still provides considerable flexibility.

Both degrees are organized around a core of required courses and a selection of elective courses from 3 specialization areas. Each student’s program must contain a depth sequence in 1 area and courses from at least 2 areas to provide breadth. The specialization electives provide a flexibility that can be used to create a focus that crosses traditional areas. Because of the number of options, students should consult early with department advisors to plan a program that meets their needs.

**BSEE Degree Requirements**—See Graduation Requirements (pages 16–19) for general university requirements. A BSEE program must have a total of at least 134 semester hours and include the following courses. A course can satisfy only 1 program requirement, except for design. Students who place out of required courses without transcript credit must substitute other approved courses in the same area. Current degree requirements and planning sheets may be found on the ECE website.

**Mathematics and Science Courses**
- CHEM 121 General Chemistry
- ELEC 261 Electronic Materials and Quantum Devices
- ELEC 303 Random Signals
- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 212 Multivariable Calculus
- MATH 355 Linear Algebra or CAAM 335 Matrix Analysis
- PHYS 101 Mechanics
- PHYS 102 Electricity and Magnetism

Additional approved mathematics and science courses to bring the total to 32 hours.

**ECE Core Courses**
- ELEC 220 Fundamentals of Computer Engineering
- ELEC 241 Fundamentals of Electrical Engineering I
- ELEC 242 Fundamentals of Electrical Engineering II
- ELEC 301 Introduction to Signals
- ELEC 305 Introduction to Physical Electronics
- ELEC 326 Digital Logic Design
- CAAM 210 Introduction to Engineering Computation
- COMP 140 Computational Thinking
- COMP 201 Principles of Computing and Programming

**Computation Course:** One from

**Design Courses**
- ELEC 391 Professional Issues in Electrical Engineering
- ELEC 493 Senior Design Seminar
- ELEC 494 Senior Design Laboratory

One from:
- ELEC 424 Mobile and Embedded System Design and Applications
- ELEC 432 Digital Radio System Design
- ELEC 464 Photonic Measurements
- ELEC 491 Independent Design Project

**BSEE Specialization Area Courses**

Upper-level ECE courses are organized into 3 specialization areas: computer engineering; systems: control, communication, and signal processing; and photonics and nanoengineering. The computer engineering area provides a broad background in computer systems engineering, including computer
architecture, digital hardware engineering, software engineering, and computer systems performance analysis. The systems area involves the study of processing and communicating signals and information through systems or devices, control theory, signal and image processing, and communications. The photonics and nanoengineering area encompasses studies of electronic materials, including nanomaterials, semiconductor and optoelectronic devices, lasers and their applications.

For the BSEE program, a minimum of 7 specialization area courses, including 4 or more in one area, and courses from at least two areas are required. Each course must be at least 3 semester hours. The department may add or delete courses from the areas, and graduate courses and equivalent courses from other departments may be used to satisfy area requirements with permission. Consult with department advisors and the ECE Web site for the latest information.

**BSEE Design Requirement**

All BSEE degree candidates must complete a design sequence of 4 courses taken during the junior and senior years. Two required seminars, ELEC 391 (spring, junior year) and ELEC 493 (fall, senior year), provide instruction in professional engineering topics, including ethics, design methodology, project planning, technical presentations, documentation, etc. In the fall semester of the senior year, students can choose any one of the approved design elective courses (see the ECE website for the current list). These courses, except for ELEC 491, provide technical instruction in a subject area and the development of a design project concept in that area. In the spring semester, the required ELEC 494 provides laboratory time in which to actually realize the project. ELEC 491, in conjunction with ELEC 494, provides 2 full semesters for more elaborate projects, including participation in design competitions sponsored by engineering societies. ELEC 491 with ELEC 494 independent design projects require advance approval by the ECE Undergraduate Curriculum Committee.

**BSEE Unrestricted Electives**

Additional courses to provide the BSEE minimum requirement of at least 134 semester hours.

**BA Degree Requirements**—See Graduation Requirements (pages 16–19) for general university requirements. A BA program must have a total of at least 120 semester hours and include the following courses. A course can satisfy only 1 program requirement, except for laboratory. Students who place out of required courses without transcript credit must substitute other approved courses in the same area. Current degree requirements and planning sheets may be found on the ECE website.

**Mathematics and Science Courses**

- ELEC 261 Electronic Materials and Quantum Devices
- ELEC 303 Random Signals
- MATH 101 Single Variable Calculus I
- MATH 102 Single Variable Calculus II
- MATH 212 Multivariable Calculus
- MATH 355 Linear Algebra or CAAM 335 Matrix Analysis
- PHYS 101 Mechanics
- PHYS 102 Electricity and Magnetism

**ECE Core Courses**

- ELEC 220 Fundamentals of Computer Engineering
- ELEC 241 Fundamentals of Electrical Engineering I
- ELEC 242 Fundamentals of Electrical Engineering II
- ELEC 305 Introduction to Physical Electronics
- ELEC 326 Digital Logic Design
For the BA program, a minimum of 4 specialization area courses, including 2 or more in one area, and courses from at least two areas are required. Each course must be at least 3 semester hours. The department may add or delete courses from the areas, and graduate courses and equivalent courses from other departments may be used to satisfy area requirements with permission. Consult with department advisors and the ECE Web site for the latest area courses.

BA Unrestricted Electives
Additional courses to provide the BA minimum requirement of at least 120 semester hours.

Graduate Degree Programs
The ECE department offers two graduate degree programs. The master of electrical engineering (MEE) degree is a course-based program designed to increase a student’s mastery of advanced subjects; no thesis is required. The MEE prepares a student to succeed and advance rapidly in today’s competitive technical marketplace. A joint MBA/MEE degree is offered in conjunction with the Jesse H. Jones Graduate School of Management. The doctor of philosophy (PhD) program prepares students for a research career in academia or industry. The PhD program consists of formal courses and original research conducted under the guidance of a faculty advisor, leading to a dissertation. Students in the PhD program complete a master of science (MS) degree as part of their program; the ECE department does not admit students for a terminal MS degree.

Information on admission to graduate programs is available from the ECE Graduate Committee and on the ECE website. See the section Information for Graduate Students (page 59) for the general requirements of graduate degrees at Rice. Students must achieve at least a B (3.0) average in the courses counted toward a graduate degree. In addition, no course in which the student earned a grade lower than a C may count toward a graduate degree.

MEE Degree Requirements—Students must prepare a MEE degree plan and have it approved by the ECE Graduate Committee. The plan must include at least 30 semester hours of courses, all at the 300 level or above. The program should include a major area of specialization (18 semester hours), a minor area (6 semester hours), plus free electives. At least 7 of the major and minor area courses must be at the 400 level or above, and at least 4 must be at the 500 level or above. ELEC 590 or ELEC 599 may not count as major area courses; no more than 3 semester hours can be transfer credit from another university, and at most 1 1-hour seminar course may be included in the plan. A MEE degree planning form and current requirements may be found on the ECE website.

PhD Degree Requirements—Students are admitted to the PhD program only
in the fall semester. ECE PhD students move through the program in stages, starting as 1st-year student, advancing to MS candidate, PhD-qualified student, and PhD candidate; each advancement requires the approval of the ECE graduate committee. Students entering with previous graduate work may follow a hybrid program developed in consultation with the faculty and the graduate committee. The 1st academic year concentrates on foundation coursework and developing a research area. Each student must successfully complete a project, ELEC 599, in his or her chosen area of research in lieu of an oral or written qualifying exam. In addition to enabling the faculty to evaluate the student’s research potential, the project encourages timely completion of the MS degree. The student must complete a master’s thesis and successfully defend it in an oral examination. Students who already have acquired a master’s degree elsewhere still are required to complete a 1st-year ELEC 599 project.

Completion of the MS degree, satisfactory performance in coursework, and a recommendation from the prospective PhD advisor is required for advancement to PhD candidacy. A candidate for the PhD degree must demonstrate independent, original research in electrical and computer engineering. After successfully presenting a PhD research proposal and completion of all coursework, a student is eligible for PhD candidacy. The student then engages in full-time research, culminating in the completion and public defense of the PhD dissertation. Details of the PhD program requirements, the phases of study, and a timetable may be found on the ECE website.

See ELEC in the Courses of Instruction section for course descriptions.
The School of Humanities

Chair
Helena Michie

Professors
Jane Chance
Justin C. Cronin
Terrence Arthur Doody
Linda P. Driskill
Rosemary Hennessy
J. Dennis Huston
Caroline Levander
Helena Michie
Wesley Abram Morris
Robert L. Patten
Meredith Skura
Edward A. Snow
Gary S. Wihl
Susan Wood
Cary E. Wolfe

Associate Professors
José F. Aranda Jr.
Krista Comer
Scott S. Derrick

Betty Joseph
Colleen Lamos
Susan Lurie
Kirsten Ostherr

Assistant Professors
Joseph Campana
Joseph N. Clarke
Sarah Ellenzweig
Joshua David Gonsalves
Nicole Waligora-Davis

Writers in Residence
Marsha Recknagel

Lecturers
Logan Delano Browning
Jill “Thad” Logan
Lisa Slappey
Mary L. Tobin

Professors Emeriti
Lucille P. Fultz
Walter Whitfield Isle
David Lee Minter

Courses

Detailed information on current semester course offerings can be found at www.english.rice.edu. Please note that undergraduate level courses range numerically from ENGL 100 through ENGL 499, and graduate courses begin with ENGL 500.

Degrees Offered: BA, PhD

The undergraduate program offers a broad spectrum of courses, including British and American literature, creative writing, women and gender studies, cultural studies, literary theory, media studies, and film. Beyond a critical appreciation of literature, students also will sharpen their written communication and analytical skills. 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 16–19). 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 PhD in English**

For general university requirements, see Graduate Degrees (pages 61–62). 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 2 or 3 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 the doctorate, and qualified PhD students who leave the program before completing the 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 2 teaching assistantships (ENGL 601/602 and 2 research assistantships). These do not count toward the 30-hour requirement.

**PhD Program**—To gain admission to PhD candidacy, students must satisfy the 1st 7 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 also must 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, completing ENGL 510/511 *Pedagogy*, and 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 6-hour written preliminary examination focusing on 2 lists of books: 1 representing the full range of a literary period as defined by the student and his or her preliminary committee, the other representing a 2nd literary period, a single author, a genre traced over a period of time more comprehensive than that covered by the 1st 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 1st 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 5 years. To qualify for this continuing financial aid, students must be approved for candidacy for the PhD by the beginning of their 9th semester at Rice.

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

Rice University introduced the 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 1 of 3 tracks in the 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. Skills acquired in 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 3-to 6-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 page 60, and also see Professional Degrees, page 62.

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 3 courses from the following:**

Group A

STAT 305 Introduction to Statistics for Biosciences (F, S)

STAT 385 Methods for Data Analysis (S)

STAT 410 Introduction to Statistical Computing and Linear Models (F)

STAT 421 Computational Finance II: Time Series Analysis (S)

STAT 422 Bayesian Data Analysis (S)

STAT 509 Advanced Psychological Statistics I (F)

**Group B**

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)

**Cohort Courses**

NSCI 610 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)

NSCI 512 Professional Master’s Project (F, S)

**Internship**

An internship is conducted 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 project.

**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 5 elective courses, three of which should be from 1 of the focus areas. At least 1 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 307 Energy and the Environment (F)

CEVE 406 Introduction to Environmental Law (S)

CEVE 434 Chemical Transport and Fate in Environment (F)

ECON 480 Environmental Economics (S)

ESCI 353 Environmental Geocchemistry (S)

MGMT 661 International Business Law (S)

MGMT 674 Production and Operations Management (F)

**Management and Policy**

CEVE 322 Engineering Economics for Engineers (F)

CEVE 406 Introduction to Environmental Law (S)

ECON 480 Environmental Economics (S)

NSCI 625 New Venture Creation in Science and Engineering (S)

MGMT 676 Project Management/Project Finance (S)

MGMT 721 General Business Law (S)

SOCI 367 Environmental Sociology (S)
MGMT 661 International Business Law (S)
MGMT 617 Managerial Decision Making (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 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 353 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 530 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 452 Computational Methods for Differential Equations (S)
CAAM 454 Optimization Problems in Computational Engineering and Science (S)
CAAM 551 Numerical Linear Algebra (F)
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

The Environmental Studies Program offers several interdisciplinary courses for students interested in broadening their understanding of environmental issues. These courses often are team-taught by faculty from various areas of study.

Students wishing to major in an environmental program have 3 options: environmental science (see below), environmental engineering sciences (see civil and environmental engineering), or environmental policy (see policy studies). In addition, chemical and biomolecular engineering majors may create a focus area in environmental engineering (see chemical and biomolecular engineering) and earth science majors may follow an environmental earth science track (see earth science).

Students seeking advice regarding environmental programs may contact Andre Droxler, or the coordinator of the Center for the Study of Environment and Society.

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 2nd major. The 67-semester-hour (minimum) double major 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 4 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**
- BIOS 201 Introductory Biology
- BIOS 202 Introductory Biology
- 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

**Core Courses**
- BIOS 325 Ecology
- ESCI 321 Earth System Evolution and Cycles
- **1 of the following 2 courses**
  - CEVE 411 Air Resource Management
  - PHYS 203 Atmosphere, Weather, and Climate
- **2 of the following 3 courses**
  - CEVE 401 Introduction to Environmental Chemistry
  - CEVE 412 Hydrology and Watershed Analysis
  - ESCI 454 Geographic Information Science

**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
- ENST 312 Environmental Battles in the 21st Century: Houston as a Microcosm
- POLI 317 Congress
- POLI 331 Environmental Politics and Policy
- POLI 332 Urban Politics
- POLI 334 Political Parties and Interest Groups
- 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 368 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 323 Conservation Biology
BIOS 334 Evolution
BIOS 336 Plant Diversity
CHEM 211 Organic Chemistry
CHEM 395 Advanced Module in Green Chemistry
ESCI 323 Earth Structure and Deformation
ESCI 340 Biogeochemistry
ESCI 421 Paleoceanography
ESCI 430 Trace Element and Isotope Geochemistry for Earth and Environmental Sciences
ESCI 442 Exploration Geophysics
ESCI 450 Remote Sensing
ESCI 454 Geographic Information Science
ESCI 468/ANTH 468 Climate Variability and Human Response

**Category D—Engineering**
CEVE 201 Introduction to Environmental Systems
CEVE 203 Introduction to Environmental Engineering
CEVE 315 Sustainable Development
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
ENST 307/CEVE 307 Energy and the Environment
ENST 281/CHBE 281 Engineering Solutions for Sustainable Communities
STAT 300 Model Building
STAT 305 Introduction to Statistics for the Biosciences
STAT 310 Probability and Statistics
STAT 339/PSYC 339 Statistical Methods—Psychology

See ENST in the Courses of Instruction section.
Financial Computation and Modeling

The George R. Brown School of Engineering
And the School of Social Sciences

Degrees Offered: None

The Departments of Statistics and Economics collaborate to offer Rice undergraduate students a minor in financial computation and modeling (FCAM). The FCAM minor consists of six courses focusing on the strategies and computational technologies used in the financial industry. The minor is designed for those students with strong computational skills and an interest in finance. Many students pursuing the FCAM minor enter careers in the financial industry, either immediately after completion of their undergraduate studies or after graduate studies. Students completing the FCAM minor will understand the complexities of financial markets and their role in and impact on world economies. For the last two decades, this sector of our economy has significantly increased its reliance on quantitative probability based methods in assessing risk and implementing financial strategies; strategies on which our economy depends.

The basic tools component of the FCAM curriculum will equip students with the economic (ECON 211 or ECON 370), probability (STAT 310) and statistical tools (ECON 400 or STAT 410) necessary to pursue the advanced analytical courses. In the advanced courses, students will be exposed to state-of-the-art models and methodologies based on long-standing assumptions about the behavior of financial markets. They also will be exposed to alternative views of market behavior and investment strategies. The goal is to educate students to question basic assumptions as well as utilize and understand technologies based on these important assumptions. In the financial industry, a large suite of solutions are implemented and continually enhanced. A goal of the FCAM program is to train leaders in this industry who not only will understand the financial technologies but also will understand the role, impact, and potential pitfalls of these technologies.

Requirements for Minoring in FCAM

Students take three courses each from two groups

**Basic Tools (Choose 3)**
- ECON 211 or ECON 370
- STAT 310
- ECON 400 or STAT 410

**Financial Computation and Modeling (Choose 3)**
- ECON 355 or ECON 448
- STAT 421
- ECON 449
- STAT 486
Degree Requirements for BA in French Studies

For general university requirements, see Graduation Requirements (pages 16–19). 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
5 additional courses (for double majors)—at least 2 courses at the 400 level

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. More than 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 advisor. Students wishing to complete the honors program in French studies also should consult one of the advisors.
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 3.0, 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 6 weeks of study in France. The Clyde Ferguson Bull Traveling Fellowship is awarded each year to an undergraduate to spend the junior year studying in France with a program approved by the department. Candidates must have taken at least 1 300-level course in the department and have a GPA of at least 3.0. 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 61-62).

MA Program—In most cases, students take 2 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 3 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 1 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 also may 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.
Degrees Offered: BA in German Studies

The department offers courses in both English and German. Courses in English have readings in translation, and all the course work is done in English. They offer exceptional opportunities to work with the experts on numerous topics in German Studies. The freshman seminars offered by the department are included among the English language courses. For students who have completed intermediate German or the equivalent, the department offers courses starting at the 300-level with readings, discussion, and course work in the German language. These courses include surveys of German culture and literature, introduction to German language media, and German through cultural texts, as well as more advanced topics. Studies in film, cultural theory, and gender complement traditional studies of German literature, philosophy, history, and art. Advanced courses continue to reinforce and expand German language skills.

The department encourages and facilitates study abroad through advising and scholarship support.

For our current course offerings see our website: german.rice.edu. We also post up-to-date information in the department on the third floor of Rayzor Hall.

Degree Requirements for BA in German Studies

For general university requirements, see Graduation Requirements (pages 16–19). Students who have German as their only major must complete at least 30 semester hours at or above the 300 level, as follows:

- GERM 304 German through Cultural Texts
- GERM 305 Enlightenment and Romanticism, 1750–1850
- GERM 306 Realism to Modernity, 1850–present
- 4 German 300-level courses (up to 2 may be from the department’s offerings in English)
- 3 German 400-level courses

Students who have German as a double major must complete at least 24 semester hours at or above the 300 level, as follows:

- GERM 304 German through Cultural Texts
- GERM 305 Enlightenment and Romanticism, 1750–1850
• GERM 306 *Realism to Modernity, 1850–present*
• 3 GERM 300-level courses (1 may be from the department’s offerings in English)
• 2 German 400-level courses

**Note:** For single majors, a maximum of 4 transfer courses can count toward the major. For double majors, a maximum of 3 transfer courses can count toward the major. Request for exceptions to these rules will be considered by the undergraduate advisor.

**Honors**—The department offers an honors program for majors excelling in their studies. Honors work consists of readings and research leading to a substantial honors thesis under the supervision of a department faculty member (GERM 493 in fall, GERM 494 in spring). Outstanding students are presented annually with the Max Freund Prize.

*See GERM in the Courses of Instruction section.*
GLOBAL HEALTH TECHNOLOGIES


DIRECTOR AND ADVISOR
Rebecca Richards-Kortum

STEERING COMMITTEE
George N. Bennett
Jennifer West
Kyriacos Zygourakis

UNDERGRADUATE ADVISORS
Elias K. Bongmba
Maria Oden
Kristen Ostherr

MINOR ADVISOR
Yvette Mirabal

DEGREES OFFERED: NONE

The Department of Bioengineering collaborates with a number of departments to offer Rice undergraduate students a minor in global health technologies (GLHT) through the Beyond Traditional Borders (BTB) initiative—a unique, multidisciplinary program to educate and train students to reach beyond traditional disciplinary and geographic boundaries to understand, address, and solve global health disparities. With complementary contributions from the humanities, social science, policy, bioscience, and engineering programs at Rice, the GLHT minor prepares students to integrate diverse perspectives as they develop solutions to the complex problems of global health, using the formal approach of the engineering design process.

Advances in biotechnology and bioengineering are transforming how disease is detected and treated, and have led to significant advances in health over the last 50 years. Developing countries, however, have largely missed out on the gains in health enjoyed by the rest of the world, and the HIV/AIDS pandemic has greatly increased the complexity of health challenges faced by the world’s poorest regions. With the GLHT minor, BTB aims to create future leaders who can develop effective solutions to significant world health challenges. Many students pursuing the GLHT minor—having been trained to develop and implement appropriate biotechnology and bioengineering solutions that integrate scientific, engineering, health, policy, and economic data perspectives—enter careers in medicine, public health, public policy, and international development.

Students begin the GLHT minor sequence (5 core courses and 2 elective courses) in a multidisciplinary gateway course and then move into 1 of 2 tracks based on their major course of study for teaching focused on their area of expertise. Having fostered a command of specialized knowledge relevant to the development of technologies appropriate for resource-constrained settings, students conclude the GLHT minor with a common capstone course that enables them to benefit from one another’s proficiencies as they work in interdisciplinary teams to address a global health challenge.

- In the Engineering and Science track, undergraduates take a series of courses leading to a year-long capstone design experience. A freshman seminar-style course, BIOE 260 Introduction to Global Health Issues, introduces students to the range of challenges faced by the least developed countries in the pursuit
of healthy populations. Guest speakers from relevant departments at Rice and from BTB collaborating institutions make the course accessible to students of all disciplines. Two subsequent core courses, BIOE 361 *Metabolic Engineering for Global Health Environments* and BIOE 362 *Bioengineering for Global Health Environments*, provide students with expertise in biotechnology and bioengineering applied to international health problems. Finally, BIOE 461/462 *Global Health Design Challenges* requires multidisciplinary teams of students, mentored by interdisciplinary faculty teams, to work together in a 2–semester course to develop a solution to an international health challenge.

- Likewise, Humanities, Social Science, and Policy track undergraduates completing the GLHT minor take a series of courses, also leading to the capstone design experience BIOE 461/462 *Global Health Design Challenges*. Together with science and engineering students, they begin with the freshman course BIOE 260 *Introduction to Global Health Issues*. Two subsequent core courses, BIOS 122 *Fundamental Concepts in Biology* and BIOE 301 *Bioengineering and World Health*, provide an overview of scientific, economic, and policy issues associated with biotechnology and bioengineering advances to address global health needs.

### Requirements for Minoring in GLHT

Students must complete 5 core courses in the science and engineering track or the humanities, social science, and policy track, depending upon their major course of study. In addition to the core course sequence, students must complete a minimum of 2 elective courses.

**Science and Engineering Track Core Courses**

- BIOE 260 *Introduction to Global Health Issues*
- BIOS 361 *Metabolic Engineering for Global Health Environments*
- BIOE 362 *Bioengineering for Global Health Environments*
- BIOE 461/462 *Global Health Design Challenges*

**Humanities, Social Science, and Policy Track Core Courses**

- BIOE 260 *Introduction to Global Health Issues*
- BIOS 122 *Fundamental Concepts in Biology*
- BIOE 301 *Bioengineering and World Health*
- BIOE 461/462 *Global Health Design Challenges*

All core courses will be offered each year: BIOS 122, BIOE 301, BIOE 362, and BIOE 461 in the fall and BIOE 260, BIOS 122, BIOS 361, and BIOE 462 in the spring. The sequence indicated is the recommended sequence, and prerequisites may apply, although some flexibility is possible. Prior to enrollment in the capstone course BIOE 461/462, students must successfully complete all other GLHT minor core course requirements per their track, although electives may be taken concurrently. There is no requirement to initiate the GLHT minor in the freshman year. It can be initiated as late as the junior year (beginning of the fifth semester). It will be possible for students to receive credit for GLHT minor courses that also fulfill a requirement within their major. Students can petition the GLHT minor advisory committee to accommodate a change in their major course of study that impacts their minor track selection.
Elective Courses

For a list of approved elective courses, covering a wide range of relevant topics, please visit www.beyondtraditionalborders.rice.edu and/or speak with the minor advisors.

Admission

All GLHT minor courses are open to all Rice students, including those not pursing the GLHT minor, with the exception of the capstone course BIOE 461/462 which is restricted to students completing the GLHT minor. For BIOE 260, the gateway course to the GLHT minor, students are required to submit a short application (available at www.beyondtraditionalborders.rice.edu) to gain instructor permission to register for the course. Preferential admission to BIOE 260 will be given to students who indicate they are seeking to complete the GLHT minor course of studies.
Hispanic Studies

The School of Humanities

Chair
José Aranda

Associate Professors
Luis Duno-Gottberg
Robert Lane Kauffmann
J. Bernardo Pérez

Professors
James A. Castañeda
Beatriz González-Stephan

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. 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 16–19). Both single and double majors must take at least 1 course in Hispanic linguistics, one course in Spanish literature and/or culture, and 1 course in Latin American literature and/or culture. No more than 2 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 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 the department coordinator.

Honors—Every year, the department presents the Cervantes Award for Outstanding Seniors to its top students. The department also offers to outstanding majors the opportunity to do honors work during their final year of study. Honors work consists of an independent research project leading to a thesis and is undertaken under the direction of a departmental faculty member. Students wishing to do honors work must submit a thesis proposal to be approved by
the department before the end of the semester prior to the semester in which they will register for the honors thesis (SPAN 495).

**Degree Requirements for MA in Hispanic Studies**

For general university requirements, see Graduate Degrees (pages 61–62). For the MA degree, candidates must:

- Complete with high standing an approved program that normally includes 27 semester hours in advanced courses, plus 9 hours of thesis work
- Pass a reading examination in 1 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.
HISTORY

THE SCHOOL OF HUMANITIES

Chair
Martin J. Wiener

Professors
Tani E. Barlow
John B. Boles
Douglas G. Brinkley
Peter C. Caldwell
Ira D. Gruber
Thomas L. Haskell
Michael Maas
Ussama Makdisi
Allen J. Matusow
Atieno Odhiambo
Paula A. Sanders
Richard J. Smith
Martin J. Wiener
John H. Zammito

Professors Emeriti
Katherine Fischer Drew
Harold Hyman

Gale Stokes
Albert Van Helden

Associate Professors
Alexander X. Byrd
Stephanie M. H. Camp
Edward L. Cox
Eva Haverkamp
Carol E. Quillen
Allison L. Sneider
Kerry R. Ward
Lora Wildenthal

Assistant Professors
Lisa A. Balabanlilar
G. Daniel Cohen
Rebecca A. Goetz
W. Caleb McDaniel
Cyrus C. M. Mody

Lecturers
Timothy J. Fitzgerald
Gale L. Kenny
Maher Memarzadeh

Degrees Offered: BA, MA, PhD

The undergraduate program offers courses in ancient and medieval history; modern European history; U.S. history; African, Asian, and Caribbean history. 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; and from general global history to specific areas such as East and South Asian history, Caribbean history, Middle Eastern history, and the history of science and technology. 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 U.S., Europe, Atlantic, and African, and a graduate certificate in the study of women, gender, and sexuality.

Degree Requirements for BA in History

For general university requirements, see Graduation Requirements (pages 16–19). Students majoring in history must complete a minimum of 30 semester hours (10 courses) in history. No less than 18 hours (6 courses) should be taken at Rice. No more than 6 hours (2 courses) may be satisfied by advanced placement (AP) credit. Transfer credit, foreign or domestic, when combined with AP, cannot count for more than 12 hours (4 courses). At least 18 hours (6 courses) are required on the 300 or 400 level. Two courses must be chosen from a departmental list of seminars devoted mainly to writing and discussion.
In addition, majors are expected to distribute their 10 courses over 4 fields (AP credit may not be used for these):

- Premodern—1 course minimum
- Europe—1 course minimum
- United States—1 course minimum
- Africa, Asia, Latin America, Middle East—1 course minimum

Some foreign language proficiency is desirable and the department highly recommends that students contemplating graduate work in history study at least one foreign language in some depth.

**Transfer Credit**—The Department of History grants transfer credit on a case-by-case basis to enrolled undergraduates (the Registrar determines the credit hours). Courses taken at another institution must be the equivalent in required reading, writing, and testing of a Rice history course. It does not have to have an equivalent in the Rice history offerings. For the current procedures to request transfer credit, see the department homepage history.rice.edu. Rice students planning to study at a foreign university must also obtain approval from the Office of International Programs.

**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). Application to the program is required. For current procedures, see the department homepage, history.rice.edu. Students must complete both semesters of HIST 403 and 404 to receive credit; the grade for the final project applies to the full 6 hours. Limited financial assistance is available to conduct related research during the summer between the junior and senior year for all students accepted into the Honors Program.

**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 program. Although many successful candidates to the PhD program have an MA or other advanced degree, advanced study is not a requirement for admission. Graduate study is 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 61–62).

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 master's 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 3 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
2nd year; and (2) completion of 2 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: 2 in their major area of concentration, whether European, U.S., or other history, and a 3rd in an area outside of that concentration (e.g., if the major area is European history, the 3rd 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 3rd field in an area outside the department should petition the graduate committee by the end of their 2nd 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 3 examination fields.
- Take 8 graduate seminars, including Introduction to Doctoral Studies.
- Pass an examination in their principal language of research or, if the principal language of research is English, in one other language.
- Perform satisfactorily on written and oral examinations. For students entering with a BA, those examinations normally will be taken before the beginning of the 5th semester and no later than the beginning of the 6th 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.**
The mission of the Humanities Research Center (HRC) is to foster scholarly research and intellectual community in the humanities, broadly understood, to facilitate scholarly work between the School of Humanities and other areas of Rice University, and to lead institutional change by partnering with other foundations, centers, research institutions, and universities. The HRC strives to bring a dynamic element to research and teaching by developing “intellectual liquidity” within and between humanities and the sciences, information and communications technologies, and the professions.

Each year, in addition to its orientation toward faculty development, the HRC administers the Andrew W. Mellon seminars. The two-semester seminars promote research at the highest level between faculty and doctoral students. Starting with a core of well-developed research by the seminar leader, the seminars invite students from across the humanities to become fellow researchers and collaborators. The seminars support innovative graduate-level training and research in the humanities and social sciences.

See HURC in the Courses of Instruction Section.
KINESIOLOGY

THE SCHOOL OF HUMANITIES

Chair
Nicholas K. Iammarino

Professor
Bruce Etnyre

Professors Emeriti
Eva J. Lee
Hally B. W. Poindexter
Dale W. Spence

Associate Professor
James G. Disch

Assistant Professor
Peter G. Weyand

Professor of the Practice
Clark Haptonstall

Lecturers
Jason Sosa
Tom Stallings

Part-time Lecturers
Roberta Anding
Brian Gibson
Patrick Thornton

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 kinesiology.rice.edu.

Degree Requirements for the BA in Kinesiology

For general university requirements, see Graduation Requirements (pages 16–19). 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
Advisor: Peter Weyand

Students who choose the sports medicine program 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 also may be directly employed in medical and corporate settings, which include both preventative and rehabilitative programs. Graduates who choose not to seek postbaccalaureate education generally are encouraged to obtain certification for exercise testing, physical fitness evaluation, or exercise prescription through the American College of Sports Medicine at www.acsm.org.

The sports medicine curriculum intends to provide a strong natural science foundation and 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 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 advisor. The application (proposal) process for independent studies is outlined on our webpage at kinesiology.rice.edu/programs.cfm. Qualified students also are encouraged to apply for any highly competitive internship. The internships generally provide students with an opportunity to experience the application of preventative and rehabilitative sports medicine concepts and practice in a healthcare or corporate setting.

**SPORT MANAGEMENT PROGRAM**

_Director: Clark Haptonstall_

Sport Management is an interdisciplinary field of study that draws from a wide range of academic disciplines, including business, management, law and communication. Each discipline can be applied to the business enterprise of amateur and professional sport, corporate America or other management related professions. While Sport Management is an interdisciplinary major, many of its faculty are housed in the Department of Kinesiology. For a full description about Sport Management, see pages 274–275.

**HEALTH SCIENCES PROGRAM**

_Advisor: 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 45 semester hours in addition to the general university requirements (see pages 16–19). Seven courses constitute a total of 21 required hours. These required courses include 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), a professional preparation course that introduces students to the profession (Foundations of Health Promotion/Health Education), theories and models commonly used in health promotion research and practice (Theories and Models of Health Behavior), and an application course in which students plan a health promotion
program (Planning and Evaluation in Health Promotion/Education). The remaining 24 semester hours are drawn from elective courses that are both within the Department of Kinesiology 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.
Leadership Rice exists to encourage and equip Rice students to obtain significant leadership roles at Rice and beyond. We provide leadership development opportunities to undergraduates from every discipline, with additional opportunities for those students displaying the highest capacity and strongest ambition for significant leadership.

We seek to accomplish our mission through a blend of curricular and co-curricular activities, including academic classes, enhanced internships, and grants for student initiatives. The Summer Mentorship Experience is a competitive summer internship program through which students are paired with both an organization and a mentor in the organization who oversees the student’s learning and leadership development. Envision Grants provide up to $2,500 in support of student projects that promote service, foster leadership development, demonstrate ingenuity, and plan for sustainability. Implementing a project funded by an Envision Grant is an excellent way for students interested in applying for prestigious scholarships and fellowships to demonstrate that they possess the initiative and ability to translate ideas to action. Leadership Rice also sponsors the Toastmaster’s International club, which provides a supportive context in which to become more confident and polished in public speaking.

Leadership Rice classes prepare students for the challenges and opportunities leaders face today. Classes are open to students of all years and majors and may be taken independently of each other.

**Courses offered:**

- LEAD 101  *Leadership Theory and Practice*
- LEAD 150  *Leadership in Professional Context*
- LEAD 301  *Historical and Intellectual Foundations of Leadership*
- LEAD 313  *Entrepreneurial Leadership*
- LEAD 320  *Rhetoric of Leadership*
- LEAD/COMM 321  *Leadership Communication*
- LEAD/COMM 325  *Applied Leadership—Power, Influence, and Persuasion*
- LEAD/SOC 375  *Social Dynamics of Leadership—Elites and Society*

For more information, visit www.leadership.rice.edu.

See LEAD in the Courses of Instruction section.
LIBERAL STUDIES

THE SUSANNE M. GLASSCOCK SCHOOL OF CONTINUING STUDIES

DEAN
Mary B. McIntire

DIRECTOR
John W. Freeman

Please refer to the program Web site at www.mls.rice.edu for program information and academic policies.

DEGREE OFFERED: MASTER OF LIBERAL STUDIES

The part-time Master of Liberal Studies (MLS) is an interdisciplinary program that provides adults in the Houston area a unique opportunity to challenge themselves intellectually. Designed for those who love to learn new ideas and discuss them with others, the MLS program allows students to explore timeless and timely human questions within the humanities, social sciences, and sciences. Though exploring the liberal arts at a highly integrated level is not always possible in a career-focused undergraduate curriculum, it is both possible and well suited to a master's level program. Courses in the MLS program are taught by distinguished Rice faculty and invited visiting faculty who appreciate the opportunity to teach adults.

The program is designed for working adults and does not follow the traditional university schedule of fall and spring semesters. Classes meet 1 evening per week for 10–11 weeks, with 2 or 3 Saturday morning classes. Sessions are offered in the fall, winter, and spring.

Fall classes begin in September and end before Thanksgiving; winter classes begin in January and end in March; spring courses begin in April and end in early June. No classes are held in July or August.

DEGREE REQUIREMENTS

For general university requirements for graduate study, see page 60. The MLS program consists of 33 credit hours, which include 3 core courses, 7 electives, and a capstone course. A student may take only 1 course in his or her entering session. The core courses—1 in humanities, 1 in social sciences, and 1 in natural sciences—are designed to acquaint 1st-year students with the contrasting perspectives and methodological approaches that define academic inquiry in the 3 broad fields. Core courses must be completed before electives may be taken. Electives may focus on just 1 “track” (science, social science, or humanities) or may be chosen more broadly. All courses will require research papers; some may require tests or oral presentations.

The capstone course is designed to help students integrate their knowledge through writing an extended paper or completing a project to be presented to MLS faculty and students. A thesis is not part of the degree program. The program can be completed in approximately 4 years if 1 class is completed every session.
Admission
Admission to graduate study is open to qualified students holding a bachelor’s degree (or equivalent) from an accredited university or college. A minimum GPA of 3.0 from the applicant’s undergraduate work is expected, though the admissions committee also gives consideration to applicants’ postgraduate experience and recent accomplishments.

Courses
Historically, Rice University has recognized that becoming physically educated is integral to one's overall education. Since the university was founded in 1912, the Lifetime Physical Activity Program has worked to create a multi-faceted learning experience that promotes the physical, social, and emotional benefits of physical activity. It is the mission of the Lifetime Physical Activity Program to teach both theoretical and practical components of a variety of exercise/performance activities such that they will bring enjoyment and demonstrate the importance of maintaining health and wellness throughout the course of a lifetime.

Specifically, the goals of the Lifetime Physical Activity Program are:

• To encourage a lifetime of fitness through the teaching of mechanical, physiological, and nutritional principles.
• To teach other pertinent knowledge such as historical and cultural foundations, rules, and strategy.
• To create an environment that fosters a sense of emotional satisfaction, physical accomplishment, and social interaction for its participants.
• To provide students with high-quality instruction specific to the course material so that they may learn skills that will improve the length and quality of their lives.
• To expose Rice University students to activities that are not necessarily mainstream in United States culture.

To satisfy the LPAP requirement, students must satisfactorily complete two different non-credit LPAP classes. Students with disabilities may make special arrangements to satisfy this requirement. While LPAP courses may not be repeated to meet the graduation requirement, students can repeat a course for credit, but should expect to complete additional work. However, students will not receive more than four hours of credit from the successful completion of LPAP classes.

Lifetime physical activity classes are strongly recommended for all first-year students, including transfers who have not taken equivalent courses elsewhere. Because LPAP courses are participation based and must be supervised by an instructor, students are not allowed to add them after the second full week of classes each semester.
The Lifetime Physical Activity Program offers a variety of sport/exercise/performance activities. In the 40-plus sections that are offered each semester, many have a multi-sport focus (i.e. volleyball/basketball), allowing students to experience 3 or 4 activities during one year. A student may select an LPAP section that meets his/her scheduling needs and that offers activities that satisfy his/her interests. Some of the current activities offered include racquet sports (tennis, racquetball, badminton), fitness activities (aerobics, personal fitness, weight training), aquatic activities, dance (Latin, 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, yoga, and nutrition.

See LPAP in the Courses of Instruction section.
The department offers both a major program in linguistics and a Certificate of Teaching English to Speakers of Other Languages, which may be earned with or without a Linguistics major. For general university requirements, see Graduation Requirements (pages 16–19). 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 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 9 courses (27 semester hours) in linguistics at the 300 level or above, including 5 core courses as specified below (or otherwise listed in a particular concentration).

**Core Courses**
LING 300 *Linguistic Analysis*
LING 301 *Phonetics*
LING 304 *Introduction to Syntax* or LING 311 *Phonology*
LING 305 *Historical Linguistics*, LING 315 *Introduction to Semantics*, or LING 416 *Language Universals and Typology*
LING 415 *Sociolinguistics* or LING 490 *Discourse*

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. No more than 1 independent study course may be counted toward the major requirements.

Students may elect either a general linguistics major or one of 5 areas of concentration. Options in the list of core courses that are not used as core courses can count as electives for the general major or for concentrations.

The general linguistics major requires, in addition to 5 core courses and the language requirement, at least 4 advanced linguistics electives (300 level or above).
Majors who plan to pursue graduate training in linguistics are recommended to choose 1 of the areas of concentration below. 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 5 core courses, 4 advanced electives (300 level or above) also are required, which should be chosen in consultation with the linguistics major advisor. Courses in the structure or the history of the languages studied are especially appropriate.

- **Cognitive Science Concentration.** This concentration requires, in addition to the 5 core courses, 4 advanced linguistics courses focused on the cognitive aspects of human language, selected from LING 306 Language, Thought, and Mind, LING 309 Psychology of Language, and LING 315 Introduction to Semantics, LING 411 Neurolinguistics, and LING 490 Discourse; and 2 courses from cognitively-related disciplines (psychology, computer science, anthropology, philosophy) as approved by the linguistics major advisor.

- **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 5 core courses, the student must take 4 courses selected from LING 313 Language and Culture, LING 406 Cognitive Studies, LING 415 Sociolinguistics, LING 419 Bilingualism, LING 421 Sociolinguistics of Spanish, LING 490 Discourse; and 2 courses in sociocultural studies outside the department approved by the linguistics major advisor. Examples of appropriate courses are ANTH 353 Cultures of India, ANTH 361 Latin American Topics, PSYC 202 Introduction to Social Psychology, HIST 250 Traditional Chinese Culture, and SOCI 386 African Americans in Society.

- **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 5 linguistics core courses, 4 additional courses are required, as follows: LING 340 Theory and Methods of Teaching ESL; 1 structure of language course (LING 394 Structure of English or other language equivalent such as LING 318 Structure of French, LING 370 Structure of Japanese, etc., as approved by the linguistics major advisor); and any 2 of the following: LING 309 Psychology of Language, LING 313 Language and Culture, LING 415 Sociolinguistics, LING 418 The Acquisition of L2 Spanish, LING 419 Bilingualism, LING 420 Cognition and L2 Acquisition, LING 422 The Development of Tense and Aspect in Second Language Learning, and LING 490 Discourse.

- **Speech Sciences Concentration.** This concentration is designed for those who would like to pursue career paths in fields related to speech, language, and hearing. Medical-oriented fields under this rubric include speech pathology and audiology; speech technology fields include speech recognition and speech synthesis. The 5 core courses required for this concentration are LING 300 Linguistic Analysis, LING 301 Phonetics, LING 311 Phonology, LING 415 Sociolinguistics, and LING 490 Discourse. In addition to the core courses, students must take the 2-unit seminar LING 396 Professions in the Speech Sciences and 7 other upper-level courses as outlined below:
For students planning careers in medically-oriented fields, the 7 additional courses must include LING 212 *Speech & Hearing Science*, LING 309 *Psychology of Language*, and LING 411 *Neurolinguistics*. Additionally, 4 courses are chosen as follows:

From linguistics one of the following: LING 428 *Laboratory Phonology*, LING 490 *Discourse*, LING 555 *Seminar in Phonetics*, or LING 409 *Special Topics*, when on a topic deemed appropriate by the speech sciences advisor.

From courses outside the department, 3 of the following:

EDUC 310 *Introduction to Special Education*

PSYC 321 *Developmental Psychology*

PSYC 339 *Statistical Methods*

PSYC 351 *Psychology of Perception*

BIOS 122 *Introduction to Biology*

KINE 301 *Human Physiology*

NEUR 511 *Integrative Neuroscience*

For students planning careers in speech technology, the 7 additional courses will include 4 of the following: LING 304 *Introduction to Syntax*, LING 309 *Psychology of Language*, LING 428 *Laboratory Phonology*, LING 490 *Discourse*, LING 555 *Seminar in Phonetics*, or LING 409 *Special Topics*, when on a topic deemed appropriate by the speech sciences advisor. The remaining 3 requirements should be chosen from the following courses from outside the department:

ELEC 301 *Introduction to Signals*

ELEC 434 *Digital Signal Processing Lab*

MECH 373 *Acoustics*

COMP 200 *Elements of Computer Science* or

COMP 210 *Principles of Computing*

Further courses in the medical and the language technology areas will enhance students’ preparation for these respective fields. Students contemplating careers in the speech sciences should consult with the speech sciences advisor and faculty in other relevant areas concerning course choice and career planning.

**Honors Program.** The Linguistics 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 major advisor before the end of the 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 (the project supervisor). Acceptance into the program is by agreement of the linguistics faculty. On acceptance, the student will enroll in LING 482 *Honors Project*, 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 meet regularly with their project supervisor regarding their progress; the supervisor is responsible for providing 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.

**PhD in Linguistics**

The doctoral linguistics program at Rice emphasizes the study of language use and functional/cognitive approaches to linguistic theory. Rice faculty engage in a broad range of research specializations, all of which play an important role for in-depth graduate training. These interrelated areas include cognitive linguistics, language change, sociolinguistics, discourse analysis, language documentation and description, phonetics, laboratory phonology, and typology. Other faculty research interests include phonological theory, acoustic phonetics, speech sciences and technology, syntax, language revitalization, neurolinguistics, forensic linguistics, applied linguistics, and second language acquisition. The program only admits students planning to study for the PhD degree full time. Undergraduate preparation ideally should include language study and course work in linguistics or disciplines related to linguistics, such as anthropology, applied linguistics, speech and hearing sciences, psychology, sociology, or studies of particular languages, although an advanced degree is not required. A master's degree may be earned during progress to the PhD degree. Admission to the program is competitive. Students admitted to the program are generally offered financial support in the form of tuition scholarships and/or stipends for living expenses.

During the 1st year of residence, each entering student works closely with the graduate advisor 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.

Students with a master’s degree in linguistics will progress through the degree program in 4 years; those without in 5. With no prior linguistics background, course work in the first 3 years will include:

- 1 problem-solving course in linguistic analysis (LING 500) to be taken in the 1st year of study
- 2 courses in the area of phonetics/phonology (LING 501 and 511)
- 2 courses in the area of syntactic/semantic analysis (LING 504 and LING 515 or LING 413)
- the 2-course sequence in field methods (LING 407 and LING 408) to be taken normally in the 2nd year of study
- 2 seminars in the department to be taken in the 2nd and/or 3rd year of study
- 5 additional elective courses, including 2 courses in other subfields of linguistics, for those in the 5-year program; 2 additional electives for those in the 4-year program

Prior preparation in linguistics will be assessed with regard to its equivalence to particular Rice courses. Graduate students are required to register for at least 12 hours credit per semester before advancing to candidacy. All students are 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.

Before advancing to candidacy, students must prepare 2 in-depth research papers. Each paper must represent a different area in the field of linguistics (as determined by the linguistics faculty); a separate committee of 3 members of the faculty reads and referees each paper. The committees are chosen by the student and approved by the student’s faculty mentor. 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 their work in venues such as conference proceedings and/or journals when possible.

Finally, students must fulfill the departmental language requirement of competency in at least 2 languages other than English. See the department webpage for specific details.

In the course of the first 3 years in the program, 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. During the 1st year, the graduate advisor serves as the student’s advisor, but after the 1st year, the student selects a faculty mentor to provide more personalized advising in addition to the general advice of the graduate advisor. After the student's 2nd 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 4th year, students present to their committee members a 3rd research paper, called the dissertation prospectus, consisting of a substantial dissertation proposal and a comprehensive bibliography. This prospectus 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 2 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.

Following advancement to candidacy, the student works full time toward the completion of the dissertation. The student is expected to consult regularly with the committee members during the data collection and 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 fulfilled, the degree is then granted.

For more in-depth information about the linguistics graduate program and faculty, consult the departmental web page at www.linguistics.rice.edu/.

See LING in the Courses of Instruction section.
Degrees Offered: MBA, MBA/Master of Engineering

The Jesse H. Jones Graduate School of Management (JGSM) was established in 1974 through a gift from Houston Endowment, Inc. The school provides its highly select graduate students with unique opportunities for professional education 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, health care management, and strategic management.

The MBA from the Jones Graduate School of Management can be obtained via the full-time MBA program, the MBA for Professionals program, or the MBA for Executives program. The Executive and Professional MBA programs are designed for executives and working professionals who do not wish to interrupt their careers while they pursue MBA degrees. The Executive and Professional MBA programs feature similar content and the same faculty as the traditional 2-year MBA program but have a different delivery format. The MBA for Professionals program meets on Monday and Wednesday evenings. The Executive MBA program meets on alternating Friday and Saturdays.

A joint MBA/Master of Engineering degree is offered by the Jones Graduate School of Management and the George R. Brown School of Engineering, in any of the departments of engineering. This degree prepares students to become managers in organizations requiring a high level of technical expertise and management skills.

A dual MBA/MD offered by the Jones Graduate School of Management 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.

Admission Requirements for Jones Graduate School

For general information, see Admission to Graduate Study (page 60). 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.

The MBA and MBA for Professionals Program—Although the MBA and MBA for Professionals programs have 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 other MBA programs, 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 dual 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, 3 letters of recommendation, the GRE, and the GMAT. Some engineering departments require advanced tests as well.

Dual MBA/MD Program—To enter this dual degree program, applicants must first be accepted by Baylor College of Medicine and 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 the MBA Program**

The MBA Program requires the completion of 60 credits of course work over a two year period. Student must register for 15 credits of course work in all four semesters of residence and are not allowed to take more than 18 credits in any semester. The first year of the program is dedicated to core curriculum coursework; however, students have the option of taking one elective during the second semester of the first year. During the second semester of the first year, students participate in a team based Action Learning Project (ALP) in which they work at a company to solve a specific business problem. This project is the first year capstone learning activity; it allows students to apply and integrate all the management principles learned throughout the first year of the program in a practical setting. The second year of the program is dedicated to elective course work.

**Areas of Interest**—Students have the option of selecting up to 2 functional or professional concentration options. Concentrations include: accounting, entrepreneurship, energy, finance, global business, marketing, management consulting, and mastering creativity and innovation.

MBA concentrations consist of 9 to 12 credit hours of coursework. If a student completes 2 concentrations, a maximum of 3.0 credits can be shared between 2 concentrations. Similarly, a custom core course can be counted toward the completion of a concentration only if the student has taken 2 other custom core courses which can be counted toward the custom core requirement. Specific concentration requirements for the 2008–09 academic year are located in the resource section for the MBA Program Office OwlSpace area.

All registration and elective selection via drop/add is completed on-line through ESTHER (esther.rice.edu) and is the responsibility of the student to monitor and maintain his or her schedule and academic record. All schedule changes require the approval of the MBA program assistant director or a designee. The school, which must approve all courses, monitors the student registration process to ensure the correct sequence of required first-year courses for each entering class.

**Waivers and Transfers of Credit**—At its sole discretion, the school may allow students to transfer up to a maximum of 6 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.

**Degree Requirements for the MBA for Professionals Program**

The MBA for Professionals degree requires completion of course work totaling 57 credits. The program is a lock-step progression in which students take required courses in sequence; students take 9 elective courses in their second year in order to fulfill their graduation requirements.

**Areas of Interest**—There are no formal elective concentrations in the MBA for Professionals program. Students may choose one 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.

All registration and elective selection via drop/add is completed on-line through ESTHER (esther.rice.edu) and is the responsibility of the student to monitor and maintain his or her schedule and academic record. All schedule changes require the approval of the MBA Program Office. The school, which must approve all courses, monitors the student registration process to ensure the correct sequence of required first-year courses for each entering class.

**Degree Requirements for the MBA for Executives Program**

This degree requires completion of seven terms and five intensive learning weekends totaling 57 credit hours. Students take the required 1st year courses in lock-step progression and choose nine electives in the second year for a total program time of 22 months.

**Areas of Interest**—There are no formal elective concentrations in the MBA for Executives program. Students may choose one 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 for Executives program director and individual faculty members offer students advice on course selection.

**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 1 academic year to complete, whereas the MBA requires 2. Joint-degree candidates, however, can fulfill requirements for both degrees in 2 academic years.

For the joint MBA/master of engineering degree, students must complete:

- At least 2 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 Dual MBA/MD Program**

Students may earn both MBA and MD degrees in 5 years. They divide their time as follows:

- Years 1 and 2—medical training at Baylor College of Medicine
- Year 3—1st year MBA core courses at Rice, plus a 3 credit healthcare management course in the spring semester. MBA/MD students are
required to fill only one custom core class requirement.

- Year 4—MBA courses at Rice, 3 MBA elective credits and 12 credits of healthcare electives during the fall semester, and medical training at Baylor College of Medicine during the spring semester.

Students use the summer between the 3rd and 4th 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 1 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 if 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.
Jones School students may not take courses pass/fail to count toward their degree requirements. Jones School students may audit courses with departmental approval. The courses will not count toward the MBA, but will appear on the transcript.

**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.)

**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/EMBA/PMBA 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 1st 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 1st 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/EMBA/PMBA program. This written appeal must be filed no later than 45 days after the last day of finals for the term (mini-semester) in which the course was offered.

3. The professor must schedule a meeting with the student within 2 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/EMBA/PMBA program.

4. If step 3 does not resolve the issue to the satisfaction of both parties, the student may appeal to the Academic Standards 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 Academic Standards 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 Academic Standards Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4).

6. Appeals beyond the Academic Standards Committee must go to the dean of the Jones Graduate School, who may seek guidance from other constituents of the school. All decisions rendered by the dean 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 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 term 4. 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 term 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.

3. 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 under way, 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.

4. 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.

5. If step 3 does not resolve the issue to the satisfaction of both parties, the student may appeal to the Academic Standards 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.

6. The Academic Standards 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 Academic Standards Committee will be rendered within 6 weeks of receiving a written notice of appeal (step 4).

7. Appeals beyond the Academic Standards Committee must go to the dean of the Jones Graduate School, who may seek guidance from other constituents of the school. All decisions rendered by the dean are final.

8. In the event that the protested grade is necessary for the student to graduate, an accelerated schedule will be followed.


**ALP Grade Appeal Policy for Student Team**

The procedure below outlines the process by which an ALP student team 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 term 4. 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 term 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 Academic Standards 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 Academic Standards 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 Academic Standards 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. Appeals beyond the Academic Standards Committee must go to the dean of the Jones Graduate School, who may seek the guidance from other constituents of the school. All decisions rendered by the dean 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.

**Elective Drop/Add Policy and Procedures**

Due to the unique term 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 elective courses at various times throughout the semester. Below are the procedures for adding or dropping a course and students should contact the Assistant Director of the MBA Program for assistance.

All schedule changes must be approved by the Assistant Director of MBA Program prior to the add/drop deadline (either via email or in person) and before the student makes any schedule changes on ESTHER (esther.rice.edu/). All class rosters are updated in the MBA Program Office and sent to professors for enrollment counts and attendance records.

If student is taking a 1.5 CREDIT course:

1. A student may add/drop a class, including section changes for 2nd year core courses, with permission from the Assistant Director of MBA Program by the deadline for the 1.5 credit drop/add period for the appropriate term.
2. A student must attend the 1st class, and may not miss a class during the 1st week.
3. A student may not add or drop a course after the deadline (see add/drop deadlines below for the 2008–09 academic year).

If student is taking a 3 credit course:

1. A student may add/drop a class, including section changes for 2nd year core courses, with permission from the Assistant Director of MBA Program by the deadline for the 3.0 credit drop/add period.
2. A student must attend the 1st class and may not miss a class during the 1st week.
3. A student may not add or drop a course after the deadline.

**Elective Add/Drop Deadlines: 2008–09**

All schedule changes must be submitted and approved by the Assistant Director of MBA Program no later than 5 p.m. of the add/drop deadline.

**MBA – Fall 2008**

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Registration Policy for non-JGSM Rice University Students

Graduate students from outside the JGSM may register for elective courses in the full-time MBA program and the MBA for Professionals programs. To be eligible for a specific course, a student must be in good academic standing (3.0 GPA or above), have permission from the student's department advisor, and have satisfied the specified course prerequisites. In order to register for the course, the student should verify eligibility with the Assistant Director of MBA programs and then request approval from the course instructor. Non-JGSM students may not register for elective courses in the MBA for Executives program or core (required) courses in any of the school's MBA programs. Rice undergraduate students are not allowed to register for any MBA-level courses (MGMT or MGMP) offered at the JGSM.

INDEPENDENT STUDY

Minimum Hours Requirement—Each 1-unit credit for independent study should contain approximately as much time content as a 1-credit 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. Independent study projects can be accommodated in increments of 1, 1.5, 2, or 3-unit independent study; 3-unit independent study projects should be less frequent. Credits will be apportioned based on the previously discussed ratio. 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 2nd week of classes in the term 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 2nd week of the semester.

### MBA – Spring 2009

<table>
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<th>Add/Drop Deadline</th>
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### MBA For Professionals — Spring 2009

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</tr>
<tr>
<td>March 27, 2009</td>
<td>IV</td>
<td>1.5</td>
</tr>
</tbody>
</table>
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 Standards Committee. If an independent study is proposed that would cause a student to exceed the 3 credit limit, the Academic Standards Committee will select 2 faculty members, other than the faculty member who will supervise the project, within the area most closely related to the study’s academic content to review and approve the study. Independent study exceeding 3 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 normally are 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 term(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 1st week of the term 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 sends 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 term. The instructor reserves the right to exclude a student from their course who is absent on
the first day. For special circumstances, see instructor 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 and Postdoctoral 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 preterm. A copy of the handbook also may 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 on satisfactory academic performance, professional behavior, and availability of funds. Academic or disciplinary probation, suspension, or more than 3 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.

Degree Requirements for PhD in Management

Who Should Apply—The Jones School's PhD program is designed for candidates with outstanding intellectual abilities and a strong commitment to research. The goal of the PhD program is to train students for academic courses focused on cutting-edge, rigorous research and teaching in a business school environment. Applicants to the PhD program must hold a four-year bachelor's degree from an accredited institution. A master's degree and work experience are not required for PhD admission.*

Requirements—For general university requirements, see Graduate Degrees (pages 61–62). For program details, see the PhD Program Guide distributed by the Jones School. Admissions applications should include scores on the Graduate Management Admissions Test (GMAT) or the Graduate Record Examination (GRE). Full financial support will be provided to all admitted doctoral students. Candidates for the PhD degree spend at least 2 years in full-time coursework and at least 2 years writing the dissertation. Four to 5 years is a reasonable goal for completing the program. For the PhD, students must

• Complete a program of doctoral-level courses that is approved by the area faculty advisor. Students take courses from departments such as economics, psychology, statistics, and political science in addition to courses from JGSM.
• Complete and defend orally a doctoral dissertation setting forth in publishable form the results of original research.

*While advanced degrees (e.g. masters) and prior work experience are taken into account in admission decisions, evidence of strong intellectual ability is of utmost importance.

See MGMP 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 also must complete at least 1 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 general university requirements, see Graduation Requirements (pages 16–19). For the BA degree, students majoring in managerial studies must complete the following 10 core courses in addition to satisfying all the requirements for their 2nd departmental or interdepartmental major:

- ACCO 305 *Introduction to Accounting*
- ECON 211 *Principles of Economics I* (microeconomics)
- ECON 448 *Corporation Finance* or ENGI 303 *Engineering Economics and Management* (for engineering majors only)
- *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**

2 courses from the following:
- ACCO 406 *Management Accounting*
- ECON 348/POLI 348 *Organizational Design*
- ECON 355 *Financial Markets and Institutions*
- ECON 370 *Microeconomics Theory*
- ECON 421 *International Finance*
- ECON 435 *Industrial Organization*
- ECON 437 *Energy Economics*
- ECON 438 *Business, Law, and Economics*
- ECON 439 *Torts, Property, and Contracts*
- MECH 499 *Legal Themes in Engineering Practice*
- POLI 335 *Political Environment of Business*
- POLI 338 *Policy Analysis*
- STAT 420 *Statistical Process Control and Experimental Design*

* MANA 404 is a capstone course that may not be taken until 8 of the 10 other required courses in the major have been completed.

** Psychology and sociology majors may satisfy this requirement with PSYC 339/STAT 339 or SOCI 398, respectively. Students with a calculus background should take STAT 305, STAT 310/ECON 382, or STAT 331/ELEC 331.

*** or CAAM 378, ECON/STAT 400, STAT 410, 421, 486.
**Honors Program**—To apply for admission to the honors program, students must have completed 8 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.

The Honors Program consists of taking 2 additional courses from:

- MANA 497/498 *Independent Research*
- ECON 440 *Advanced Game Theory*
- 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 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 202 Baker Hall.

**See MANA in the Courses of Instruction section.**
Mathematics lies at the foundation of many disciplines in the sciences, engineering fields, and the social sciences, and this influence is growing as these subjects become increasingly quantitative. Recognizing this important role in the wide variety of directions available to our degree recipients, the program in mathematics provides undergraduates with a spectrum of choices. These range from nontheoretical treatments of calculus and courses in 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, dynamics, 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, algebraic topology, and dynamics.

Degree Requirements for BA in Mathematics

For general university requirements, see Graduation Requirements (pages 16–19). 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 and at other times.

**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 1 or 2 years after the BA degree to obtain an MA degree, and they take 4 or 5 years to obtain a PhD. An MA is not a prerequisite for the PhD. For general university requirements, see Graduate Degrees (pages 61–62).

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 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 2 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 5th 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
6 to 9 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.
Degrees Offered: BA, BSME, BSMS, MME, MMS, MS, PhD

Studies in mechanical engineering may lead to specialization in 1 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 1 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 previously mentioned. Graduate students also may 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 also is 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, BS in Mechanical Engineering or BA and BS in Materials Science and Engineering**

For general university requirements, see Graduation Requirements (pages 16–19). 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 2 BS programs prepare students for the 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 mems.rice.edu/undergraduate/goals.html.

**BS in Mechanical Engineering 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 132 hours) are:

**Basic Mathematics and Science**

- CHEM 121–122 General 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 (9 hours)**

- 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 (4 hours)**

- MECH 331 Mechanics Lab
- MECH 332 Thermo/Fluids Lab
- MECH 340 Industrial Process Lab
- MECH 431 Senior Lab

**Mechanical Engineering (31 hours)**

- MECH 200 Classical Thermodynamics
- MECH 211 Engineering Mechanics
- MECH 311 Mechanics-Deformable Solids
- MECH 343 Modeling of Dynamic Systems
- MECH 371 Fluid Mechanics I
- MECH 401 Machine Design
- MECH 412 Vibrations
- MECH 420 Fundamentals of Control Systems
- MECH 472 Thermal Systems Design
- MECH 481 Heat Transfer

**Limited Electives:**

- STAT 305, 310, or 331

**Technical Electives (9 hours)**

- Distribution Electives (24 hours)

**Free Electives (15 hours)**
Technical Electives—Students are required to take a total of 3 technical electives. A minimum of 2 of these courses must come from Group A. The remaining course can come from Group A or B. Group A courses are fundamental courses in the following focus areas: aerospace engineering (AE), computational engineering (CompE), fluid mechanics and thermal science (FT), solid mechanics and materials (SMM), and system dynamics and control (SDC). Group B courses are additional technical electives that complement the focus areas listed above.

**Group A**

- MECH 400 *Advanced Mechanics of Materials* (SMM)
- MECH 403 *Computer Aided Design* (CompE, SMM)
- MECH 411 *Dyn and Control of Mech Sys* (SDC);
- MECH 417 *Finite Element Analysis* (CompE)
- MECH 454 *Comp. Fluid Mechanics* (AE, CompE)
- MECH 471 *App. of Thermodynamics* (FT)
- MECH 473 *Advanced Fluid Mechanics II* (FT)
- MECH 498 *Intro to Robotics* (SDC)
- MECH 594 *Introduction to Aerodynamics* (AE, FT)
- MSCI 402 *Mech Properties of Materials* (SMM)

**Group B**—See department for current listing

**BA with a Major in Mechanical Engineering Program**—Students seeking the BA degree with a major in mechanical engineering must complete 120 hours with at least 67 semester hours in courses specified by the department, along with 24 hours of university distribution electives and 29 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 331 and MECH 340 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 24 major and 9 elective hours for 33 hours.

**Sophomore Year**

Same as BS (except MECH 331 and 340 are not required), with 18 major and 15 elective hours for 33 hours.

**Junior and Senior Years**

25 major and 29 electives for 54 hours. The following courses are required in junior and senior years:

<table>
<thead>
<tr>
<th>CAAM 335 <em>Matrix Analysis</em> (3)</th>
<th>MECH 401 <em>Machine Design</em> (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAM 336 <em>Differential Equations in Science and Engineering</em> (3)</td>
<td>MECH 412 <em>Vibrations</em> (3)</td>
</tr>
<tr>
<td>MECH 343 <em>Modeling of Dynamic Systems</em> (4)</td>
<td>MECH 420 <em>Fundamentals of Control Systems</em> (3)</td>
</tr>
<tr>
<td>MECH 371 <em>Fluid Mechanics I</em> (3)</td>
<td>MECH 481 <em>Heat Transfer</em> (3)</td>
</tr>
</tbody>
</table>

**BA with a Major 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 Metallography and Phase Relations**
(or **MSCI 415 Ceramics and Glasses**)
**MSCI 500/501 Materials Science Seminar**
**MSCI 535 Crystallography and Diffraction**
**MSCI 537 Materials Science Senior Lab**
**MSCI 594 Properties of Polymers**

1 course from the following
**PHYS 201 Waves and Optics**
**CHEM 211 Organic Chemistry**
**CHEM 311 Physical Chemistry**

**Electives**
1 approved science elective (at the 200 level or higher)
1 approved engineering science elective (not MSCI)
1 approved technical elective

Degree Requirements for 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 5th 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 61–62). For both the MME and MMS degrees, students must complete 30 semester hours
of course work. Lists of required and 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 61–62). 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.

Each graduate student is expected to render research and/or instructional assistance to the department not to exceed 10 hours per week. Graduate student work assignments will be made by the department chair at the beginning of each semester.

All graduate students (except professional masters students [MME/MMS]) must attend at least 75% of the MEMS seminars. See the MEMS website at mems.rice.edu/graduate/gradregulations.html for details.

I. Requirements For The Professional Masters Degrees (MME And MMS)

Students are expected to complete 30 semester hours of courses approved by the department (a 1-semester course is usually 3 semester hours credit). Specific courses to be taken depend on each student's field of study. Students must discuss their individual degree plans and programs of study with their advisors. Please see the MEMS department website at http://mems.rice.edu/graduate/gradregulations.html for details.

<table>
<thead>
<tr>
<th>Degree At Entrance</th>
<th>4-year BS</th>
<th>4-year BA</th>
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<tbody>
<tr>
<td>Minimum graduate level semester hours required (course work)</td>
<td>30</td>
<td>30</td>
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</table>

See pages 16–19 for total semester hours required by Rice University.

II. Requirements For The MS Degree

Full-time students seeking the MS degree are expected to complete all the requirements for the degree within 2 calendar years following entrance into the program. Continuation in the program beyond this time limit will require special approval of the department.

All entering graduate students pursuing a thesis degree program will be subject to a preliminary evaluation of their candidacy for the highest degree program they intend to pursue. The evaluation will be conducted by the end of the 2nd semester of enrollment in the graduate program in the MEMS department.

Each candidate for the MS degree must complete a thesis demonstrating ability in research of a fundamental nature (analytical or experimental). It is expected that the research will be of sufficient importance and quality that positive results would lead to publication. The examination will be conducted by a committee consisting of at least 3 members. Two, including the committee chair, must be members of the department.

The minimum semester hours of course work (a 1-semester course is usually 3 semester hours credit) required for the MS degree are tabulated below as a function of the degree held on entrance into the program. Research and thesis hours do not count towards these course requirements. In all cases, a student's specific course of study is formulated in consultation with the departmental
advisor (thesis director) and must be approved by the department. Please see the MEMS Department website at mems.rice.edu/graduate/gradregulations.html for details.

<table>
<thead>
<tr>
<th>Degree At Entrance</th>
<th>5-year</th>
<th>4-year BS</th>
<th>4-year BA</th>
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<tbody>
<tr>
<td>Minimum graduate level semester hours required (course work)</td>
<td>12</td>
<td>24</td>
<td>30</td>
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</table>

See pages 16–19 for total semester hours required by Rice University.

### III. Requirements For The PhD Degree

Full-time students seeking the PhD degree are expected to complete all the requirements for the degree within 5 calendar years following entrance into the program. Continuation in the program beyond this time limit will require special approval of the department.

All entering graduate students pursuing a thesis degree program will be subject to a preliminary evaluation of their candidacy for the highest degree program they intend to pursue. The evaluation will be conducted by the end of the 2nd semester of enrollment in the graduate program in the MEMS department. Students pursuing a PhD degree in materials science will be examined in 4 areas: 1) thermodynamics and kinetics; 2) structures, crystallography, and diffraction; 3) mechanical properties; and 4) electrical, optical, and magnetic properties.

By the end of the 3rd year of enrollment in the graduate program in the MEMS department, the student must pass an oral qualifying examination.

Each candidate for the PhD must complete a thesis that constitutes an original contribution to scientific knowledge (analytical or experimental). It is expected that the research will be of sufficient importance and quality that positive results would lead to publication. On completion of the thesis, each candidate for the PhD degree must pass a final public oral examination. The examination will be conducted by a committee consisting of at least 3 members. Two, including the committee chair, must be members of the department. One member must be from another department within the university.

The minimum semester hours of course work (a 1-semester course is usually 3 semester hours credit) required are tabulated below as a function of the degree held on entrance into the program. In all cases, a student’s course of study is formulated in consultation with the thesis director and must be approved by the department. Please see the MEMS department website at mems.rice.edu/graduate/gradregulations.html for details.

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<thead>
<tr>
<th>Degree At Entrance</th>
<th>MS</th>
<th>5-year</th>
<th>BS</th>
<th>BA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum graduate level semester hours required (course work)</td>
<td>24</td>
<td>30</td>
<td>48</td>
<td>54</td>
</tr>
</tbody>
</table>

See pages 16–19 for total semester hours required by Rice University.

**See MECH and MSCI in the Courses of Instruction section.**


**MEDIEVAL STUDIES**

**THE SCHOOL OF HUMANITIES**

**DIRECTOR AND ADVISOR**
Eva Haverkamp

**PROFESSORS**
Jane Chance
Michael Maas
Donald Ray Morrison
Deborah Nelson-Campbell
Paula Sanders

**ASSOCIATE PROFESSORS**
David Cook
Eva Haverkamp

Scott McGill
Linda E. Neagley
Nanxiu Qian
Carol E. Quillen
Sarah Westphal

**ASSISTANT PROFESSORS**
Shih-shan Susan Huang
Peter Loewen

**LECTURER**
Edward Anderson

---

**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 medieval art history, history, literature (Arabic, Chinese, German, Italian, 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 5 courses must be at the 300/400 level. Double majors must complete a minimum of 24 semester hours.
- 1 course in medieval literature; 1 course in medieval art or music; 1 course in medieval history or philosophy

Frequently taught courses (i.e., at least every 2 years):

**Literature**

- MDST 310 *Dante*
- MDST 316 *Chaucer*
- MDST 317 *Arthurian Literature*
- MDST 335 *Mapping German Culture: Courtship, Love, and Marriage in the Age of Chivalry*
- MDST 368 *Mythologies*
- MDST 370 *Introduction to Traditional Chinese Poetry*
- MDST 375 *Introduction to Classical Chinese Literature*
• MDST 379 Women in Chinese Literature
• MDST 404 Beginnings in the Language and Literature of France
• MDST 425 Courtly Love in Medieval France

**Art**
• 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

**Music**
• MDST 222 Medieval and Renaissance Eras
• MDST 429 Music in the Middle Ages

**History**
• MDST 223/323 Medieval Empires
• MDST 257/357 Jews and Christians in Medieval Europe
• MDST 281/381 Pre–Modern Middle East History
• MDST 382 Classical Islamic Cultures

**Philosophy**
• MDST 201 History of Philosophy

It is recommended, but not required, that students take 2 semesters at the college level in an appropriate language (or language, in particular, Latin). Three courses (at least 2 at the 300 or 400 level) in the student’s chosen field of emphasis—one of these may be a directed reading course.

For single majors, 3 additional courses in the medieval period, 1 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 of 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, please visit the Medieval Studies website at medieval.rice.edu.

**Classical Studies**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>MDST 101</td>
<td>Elementary Latin I</td>
</tr>
<tr>
<td>MDST 102</td>
<td>Elementary Latin II</td>
</tr>
<tr>
<td>MDST 211</td>
<td>Intermediate Latin I</td>
</tr>
<tr>
<td>MDST 212</td>
<td>Intermediate Latin II</td>
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<td>Medieval Women Writers</td>
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<td>MDST 310</td>
<td>Dante in Translation</td>
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<td>MDST 311</td>
<td>Old English</td>
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<tr>
<td>MDST 313</td>
<td>Beowulf</td>
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<td>MDST 315</td>
<td>Medieval Culture through Film</td>
</tr>
<tr>
<td>MDST 316</td>
<td>Chaucer</td>
</tr>
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<td>MDST 317</td>
<td>Arthurian Literature</td>
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<th>Course Code</th>
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<tbody>
<tr>
<td>MDST 318</td>
<td>J. R. R. Tolkien and Medieval Literature</td>
</tr>
<tr>
<td>MDST 320</td>
<td>Directed Readings in Medieval Studies</td>
</tr>
<tr>
<td>MDST 368</td>
<td>Mythologies</td>
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**English**

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>MDST 404</td>
<td>Beginnings in the Language and Literature of France</td>
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<tr>
<td>MDST 410</td>
<td>The Literary and Historical Image of the Medieval Woman</td>
</tr>
<tr>
<td>MDST 425</td>
<td>Courtly Love in Medieval France</td>
</tr>
<tr>
<td>MDST 436</td>
<td>Literature and Culture of the Middle Ages</td>
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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>MDST 310</td>
<td>Dante in Translation</td>
</tr>
<tr>
<td>MDST 410</td>
<td>The Literary and Historical Image of the Medieval Woman</td>
</tr>
<tr>
<td>MDST 425</td>
<td>Courtly Love in Medieval France</td>
</tr>
<tr>
<td>MDST 436</td>
<td>Literature and Culture of the Middle Ages</td>
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</tbody>
</table>
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
MDST 402 Middle High German

History of Art
MDST 104 Case Studies in Ancient and Medieval Architecture
MDST 108 Art in Context: Late Medieval and Renaissance Culture
MDST 111 Introduction to the History of Western Art I: Prehistoric to Gothic
MDST 230 Medieval Art and Literature
MDST 331 Gothic Art and Architecture in Northern Europe, 1140–1300
MDST 332 Late Gothic Art & Architecture in Northern Europe, 1300–1500
MDST 373 Chinese Art and Visual Culture
MDST 431 Architecture of the Gothic Cathedral from the Middle Ages to the 20th Century
MDST 434 From Beowulf to the Bayeux Tapestry
MDST 440 Jan van Eyck: Problems of Interpretation
MDST 451 Bosch and Bruegel

History
MDST 202 Introduction to Medieval Civilization I: The Early Middle Ages
MDST 203 Introduction to Medieval Civilization II: The High Middle Ages
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 Sulayman the Magnificent
MDST 308 The World of Late Antiquity
MDST 321 Directed Readings in Medieval History
MDST 323 Medieval Empires (enriched version)
MDST 345 Renaissance Europe
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 385 Christians and Jews in the Medieval Islamic World
MDST 438 Women and Gender in Medieval Islamic Societies
MDST 444 Memory and Commemoration in the Middle Ages
MDST 446 Medieval Women
MDST 447 The Age of the Crusades
MDST 488 Topics in Medieval History

Asian Studies
MDST 370 Introduction to Traditional Chinese Poetry
MDST 375 Introduction to Chinese Literature
MDST 379 Women in Chinese Literature

Music
MDST 222 Medieval and Renaissance Eras
MDST 427 Topics in Early Music
MDST 429 Music of the Middle Ages
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

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 U.S. Army, the U.S. 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. Credit for courses in military science may be 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 16–19). For requirements for a specific degree program, see the pages for that degree program. 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 4-year program is divided into 2 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 6-week paid advanced camp in Fort Lewis, Washington, normally between their junior and senior years.

The Basic Course—The basic course consists of 4 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 2 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 and medical examination.

2-Year Program—The 2-year program is designed for students who did not take the basic course but otherwise are eligible to enroll in the advanced course. This program allows students completing their sophomore year to attend a 4-week Leader's Training Course during June and July at Fort Knox, Kentucky, in lieu of taking the 1st 2 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 $900 for the 4-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 hands-on 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 also are 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, 4-, 3-, and 2-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 ranging from $300 to $500 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 3 years, based on prior active duty service.

Other Financial Aid—All students enrolled in the advanced course will receive a subsistence allowance of $400 per month junior year and $500 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 also are available to Advanced-course cadets during the summer months.

**Miscellaneous**—All participating cadets are eligible for our internal scholarships provided by our alumni and sponsors of the program.

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 also must attend advanced camp. Students must attain a 3.0 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 1 year at a service academy.

See MILI in the Courses of Instruction section (these are University of Houston listings).
THE SHEPHERD SCHOOL OF MUSIC

DEAN
Robert Yekovich

PROFESSORS
Robert Atherholt
Richard Bado
Richard Brown
Leone Buyse
Marcia J. Citron
James Dunham
Paul V. H. Ellison
Norman Fischer
Kenneth Goldsmith
Arthur Gottschalk
Lynn Harrell
Clyde Holloway
Thomas I. Jaber
Benjamin C. Kamins
Kathleen Kaun
Stephen King
Richard Lavenda
Cho-Liang Lin
Sergiu Luca
Susanne Mentzer
Jon Kimura Parker
Larry Rachleff
Robert Roux
Marie Speziale
Ivo-Jan van der Werff
William VerMeulen
Michael Webster
Kathleen Winkler

ASSOCIATE PROFESSORS
Walter B. Bailey
Anthony K. Brandt
Shih-Hui Chen
David Ferris
Pierre Jalbert
David E. Kirk
Thomas LeGrand
Paula Page
Timothy Pitts
Brinton Smith
David L. Waters

ASSISTANT PROFESSORS
Karim Al-Zand
Gregory Barnett
Peter V. Loewen
Kurt Stallmann

ARTIST TEACHERS
Brian Connelly
Jan de Chambrier
Joan DerHovsepiian
Debra Dickinson
Jeanne Kierman Fischer
Christopher French
Hans Graf
Eric Halen
Grant Loehnig
Sohyoung Park
Janet Rarick
C. Dean Shank Jr.

LECTURERS
Nancy Gisbrecht Bailey
Rachel Buchman
Susan Dunn
Phillip Kloeckner
Virginia Nance
Sylvia Ouellette
Robert Simpson

ADJUNCT PROFESSORS
David B. Rosenfield
C. Richard Stasney

ADJUNCT LECTURER
Pieter A. Visser

VISITING PROFESSOR
Desmond Hoebig

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 5-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 16–19). 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 may be given over the material studied during the semester. All degree candidates except BA students must demonstrate keyboard proficiency by 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 on successful academic achievement and other standards of college admission. Transfer applicants from other colleges, conservatories, and universities also must 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 16–19).

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 5 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 also must complete the advanced music tests.

**Requirements**—For general university requirements, see Graduate Degrees (pages 61–62). For the MMus degree, candidates must complete at least 2 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 4 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 111 *Musical Lives*
- MUSI 112 *Great Literature in Great Music*
- MUSI 117/118 *Fundamentals of Music I and II*
- 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 Masterworks Chorus, 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

Degrees Offered: MS

Rice University introduced the 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 1 of 3 tracks in the 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 3- to 6-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 page 60 and see also Professional Degrees, page 62.

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:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 533</td>
<td><em>Nanostructures and Nanotechnology I</em></td>
<td>(F)</td>
</tr>
<tr>
<td>PHYS 539</td>
<td><em>Characterization and Fabrication at the Nanoscale</em></td>
<td>(F)</td>
</tr>
<tr>
<td>PHYS 537</td>
<td><em>Methods of Experimental Physics I</em></td>
<td>(F)</td>
</tr>
<tr>
<td>PHYS 534</td>
<td><em>Nanostructures and Nanotechnology II</em></td>
<td>(S)</td>
</tr>
<tr>
<td>PHYS 538</td>
<td><em>Methods of Experimental Physics II</em></td>
<td>(S)</td>
</tr>
<tr>
<td>PHYS 533</td>
<td><em>Nanostructures and Nanotechnology I</em></td>
<td>(F)</td>
</tr>
<tr>
<td>PHYS 539</td>
<td><em>Characterization and Fabrication at the Nanoscale</em></td>
<td>(F)</td>
</tr>
<tr>
<td>PHYS 537</td>
<td><em>Methods of Experimental Physics I</em></td>
<td>(F)</td>
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<tr>
<td>PHYS 534</td>
<td><em>Nanostructures and Nanotechnology II</em></td>
<td>(S)</td>
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<td>PHYS 538</td>
<td><em>Methods of Experimental Physics II</em></td>
<td>(S)</td>
</tr>
<tr>
<td>PHYS 416</td>
<td><em>Computational Physics</em></td>
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</table>

**Cohort courses:**

<table>
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<th>Semester(s)</th>
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<td><em>Professional Master's Seminar</em></td>
<td>(F, S)</td>
</tr>
<tr>
<td>NSCI 511</td>
<td><em>Science Policy and Ethics</em></td>
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</tr>
<tr>
<td>NSCI 512</td>
<td><em>Professional Master's Project</em></td>
<td>(F, S)</td>
</tr>
<tr>
<td>NSCI 610</td>
<td><em>Management in Science and Engineering</em></td>
<td>(F)</td>
</tr>
</tbody>
</table>

**Internship**

An internship may be conducted 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 Project.

**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, 2 of which must be science or engineering 500 level or above. Recommended courses include, but are not limited to, the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Semester(s)</th>
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</thead>
<tbody>
<tr>
<td>CAAM 378</td>
<td><em>Introduction to Operations Research</em></td>
<td>(F)</td>
</tr>
<tr>
<td>CENG 630</td>
<td><em>Chemical Engineering of Nanostructured Materials</em></td>
<td>(S)</td>
</tr>
<tr>
<td>CHEM 533</td>
<td><em>Nanoscale Chemistry</em></td>
<td></td>
</tr>
<tr>
<td>CHEM 547</td>
<td><em>Supramolecular Chemistry</em></td>
<td>(F)</td>
</tr>
<tr>
<td>CHEM 630</td>
<td><em>Molecular Spectroscopy and Group Theory</em></td>
<td>(F)</td>
</tr>
<tr>
<td>ELEC 561</td>
<td><em>Topics in Semiconductor Manufacturing</em></td>
<td>(S)</td>
</tr>
<tr>
<td>ELEC 562</td>
<td><em>Submicrometer and Nanometer Device Technology</em></td>
<td>(S)</td>
</tr>
<tr>
<td>ELEC 565</td>
<td><em>Topics in Semiconductor Nanostructures</em></td>
<td>(F)</td>
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<tr>
<td>ELEC 568</td>
<td><em>Laser Spectroscopy</em></td>
<td>(F)</td>
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<tr>
<td>ELEC 603</td>
<td><em>Nano-optics and Nanophotonics</em></td>
<td>(F)</td>
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<tr>
<td>ELEC 685</td>
<td><em>Fundamentals of Medical Imaging</em></td>
<td>(F)</td>
</tr>
<tr>
<td>ENGI 303</td>
<td><em>Engineering Economics and Management</em></td>
<td>(S)</td>
</tr>
<tr>
<td>MGMT 636</td>
<td><em>Systems Analysis and Database Design</em></td>
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<tr>
<td>MGMT 661</td>
<td><em>International Business Law</em></td>
<td>(F)</td>
</tr>
<tr>
<td>MGMT 674</td>
<td><em>Production and Operations Management</em></td>
<td>(F)</td>
</tr>
<tr>
<td>MGMT 676</td>
<td><em>Project Management/Project Finance</em></td>
<td>(S)</td>
</tr>
<tr>
<td>MGMT 721</td>
<td><em>General Business Law</em></td>
<td>(S)</td>
</tr>
<tr>
<td>NSCI 625</td>
<td><em>New Venture Creation in Science and Engineering</em></td>
<td>(S)</td>
</tr>
<tr>
<td>PHYS 569</td>
<td><em>Ultrafast Optical Phenomena</em></td>
<td>(S)</td>
</tr>
</tbody>
</table>

**Professional Science Master's 5th Year Degree Option for Rice Undergraduates**

Rice students have an option to achieve the MS in nanoscale physics by adding an additional 5th year to the 4 undergraduate years of science studies. Advanced Rice students in good standing apply during their junior year, then start taking required core courses of the nanoscale physics program during their senior year. A plan of study based on their particular focus area will need to be approved by the track director and the PSM coordinator.
Naval Science

Degrees Offered: None

Students enroll in the Navy Reserve Officers' Training Corps (ROTC) program as scholarship or nonscholarship students. 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. Credit for courses in naval science may be obtained. Financial aid and scholarships may be available to a Navy ROTC student.

For university requirements for a specific degree, see Graduation Requirements and the section pertaining to that degree. 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 stipend pay of $250–$400 per month for a maximum of 4 academic years, with all tuition, fees, and equipment paid for by the Navy. Additionally, students receive $375 per semester for books. Midshipmen must complete the prescribed naval science courses and participate in drills and 3 summer cruises. After graduating with a bachelor's degree, they accept a commission as an ensign in the U.S. Navy or as a 2nd 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 1 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.

2-Year Program Option—In their sophomore year (junior year for 5-year Rice students), students may apply for the 2-year Navy ROTC program, competing nationwide for available scholarships. If selected, they attend the 6-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 1st 2 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 4-year students. Usually about 15 percent of the nonscholarship students finishing NSI are offered 2-year Navy ROTC scholarships. Additional scholarships occasionally may be awarded to others upon the recommendation of the program chair.

U.S. Marine Corps Option 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 complete Evolution of Warfare and Amphibious Operations classes 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, in part by faculty at the University of Texas Medical School at Houston, 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 Texas Medical Center campus and some are taught according to Baylor's or UT's academic calendars, which are 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 www.ruf.rice.edu/~neurosci/.

See NEUR in the Courses of Instruction section.
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 16–19). 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 1 course from each of the following area lists:
**Senior Thesis and Honors in Philosophy:**

Qualified majors may apply before their senior year for directed research leading to a senior thesis, carried out during both semesters of the senior year. Each semester will require 3 credit hours; these 6 hours are in addition to the course hours required for the major.

To qualify for the program, students will be required to have an approved research proposal and the agreement of a faculty member to serve as advisor that project. Applicants will normally be required to have a GPA of 3.75 in philosophy courses and to have completed at least 2 upper-level courses in the distribution area of the proposed research. (See the major requirements for the definition of the distribution areas.) Applications should be submitted to the undergraduate advisor (UGA) and will be evaluated by the department.

Students who are considering applying to write a senior thesis should consult the UGA and potential advisors as early as possible. Normally students will apply before preregistration in the second semester of their junior year and will spend time during the following summer reading from a list they have developed with their advisor. The thesis normally will be between 7,500 and 15,000 words (approximately 30–60 pages) in length. Students will enroll in PHIL 411 and 412. Students accepted into the Rice University Scholars Program should enroll in HONS 470 and 471 and will be awarded departmental honors for their work in that program if they meet the requirements in this statement. Note that acceptance into the departmental honors program is a separate process from acceptance in RUSP, as is the evaluation for departmental honors.

To be considered for honors, the senior thesis must be completed by April 1. The thesis will be read and evaluated by the advisor and a second reader chosen by the department, and the final decision on honors will be made by the entire faculty. A student will receive honors if he or she receives a grade of A or A- in PHIL 412. Completion of the major with at least a 3.5 GPA in all philosophy courses is required for departmental honors. Students who miss the April 1 deadline for thesis submission but meet the university deadline for the semester will receive a grade and credit for completed work but will not be considered for honors. Students whose thesis is not awarded honors will receive a grade and credit for completed work.

**Degree Requirements for MA and PhD in Philosophy**

For general university requirements, see Graduate Degrees (pages 61–62). Students have the additional option of applying for a doctoral program specializing in bioethics (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 1 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 2 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 on their philosophical and clinical training. Further information about this program is available from the Department of Philosophy.

See PHIL in the Courses of Instruction section.
Physics and Astronomy

The Wiess School of Natural Sciences

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F. Barry Dunning

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Billy E. Bonner
Anthony A. Choy
Marjorie D. Corcoran
Michael W. Deem
Rui-Rui Du
Reginald J. Dufour
James P. Hannon
Patrick M. Hartigan
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
Paul M. Stevenson

Professors Emeriti
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Paul A. Cloutier
Ian M. Duck
Arthur A. Few, Jr.
John W. Freeman
F. Curtis Michel
Ronald F. Stebbings
G. King Walters
Richard A. Wolf

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Matthew G. Baring
Stanley A. Dodds
Thomas C. Kilian
Douglas Natelson
B. Paul Padley
Frank R. Toffoletto

Assistant Professors
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Karl M. Ecklund
Giovanni Fossati
Franciscus J. M. Geurts
Jason H. Hafner
Christopher Johns-Krull
Ching-Hwa Kiang
Emilia Morosan
Uwe Oberlack
Han Pu

Adjunct Professors
Markus Aschwanden
James L. Burch
Franklin R. Chang-Diaz
James H. Newman
Carolyn Sumners
David T. Young

Adjunct Associate Professors
Hui Li
Alexander J. Rimberg

Instructors
Timothy J. Gilheart
Dario F. Martinez

Senior Faculty Fellows
William J. Llope
Ian A. Smith
Pablo P. Yepes

Faculty Fellow
Stanislav Sazykin

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 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, astrophysics, and chemical physics provide preparation for employment or further study in physics and related fields. Students in the professional nonthesis, 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 16–19). Major requirements consist of a common core of basic physics and mathematics courses, with additional course work specific to each degree program. Students may obtain credit for some courses by advanced placement, and the department’s undergraduate committee can modify requirements to meet the needs of students with special backgrounds.

All physics majors must complete the following courses

PHYS 101 or 111 Mechanics (with Lab)
PHYS 102 or 112 Electricity and Magnetism (with Lab)
PHYS 201 Waves and Optics
PHYS 202 Modern Physics
PHYS 231 Elementary Physics Laboratory II
PHYS 301 Intermediate Mechanics
MATH 101/102 Single Variable Calculus I and II
MATH 211 Ordinary Differential Equations and Linear Algebra
MATH 212 Multivariable Calculus
(MATH 221/222 Honors Calculus III and IV may substitute for MATH 211/ MATH 212)

Additional courses for the 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
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

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 342 Electronic Circuits, and
ELEC 465 Physical Electronics Practicum
PHYS 412 Solid-state Physics
or approved substitute in applied physics
PHYS 425 Statistical and Thermal Physics
PHYS 491/492 Undergraduate Research
PHYS 493/494 Undergraduate Research Seminar
(The undergraduate research course and seminar must be taken concurrently.)
ELEC 242 Fundamentals of Electrical Engineering II or ELEC 243 Introduction to Electronics
ELEC 305 Introduction to Physical Electronics
MATH 381 Introduction to Partial Differential Equations
or 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 biological physics

**PHYS 302** Intermediate Electrodynamics
**PHYS 311/312** Introduction to Quantum Physics I and II
**PHYS 355** Introduction to Biological 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.)

**BIOS 201** Introductory Biology
**BIOS 211** Introduction to Experimental Biosciences
**BIOS 301** Biochemistry
or **BIOS 341** Cell Biology
**CHEM 121/122** General Chemistry with Laboratory
or **CHEM 151/152** Honors Chemistry with Laboratory
**CHEM 211** Organic Chemistry
**MATH 381** Introduction to Partial Differential Equations
or **CAAM 336** Differential Equations in Science and Engineering

Additional courses for the BS degree in physics with option in computational physics

**PHYS 302** Intermediate Electrodynamics
**PHYS 311/312** Introduction to Quantum Physics I and II
**PHYS 416** Computational Physics
**PHYS 425** Statistical and Thermal Physics
**PHYS 491/492** Undergraduate Research
**PHYS 493/494** Undergraduate Research Seminar

(The undergraduate research course and seminar must be taken concurrently.)

**MATH 381** Introduction to Partial Differential Equations
and **MATH 382** Complex Analysis
or **CAAM 355** 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 astrophysics

**PHYS 302** Intermediate Electrodynamics
**PHYS 311** Introduction to Quantum Physics I
**PHYS 425** Statistical and Thermal Physics
**ASTR 230** Astronomy Laboratory
**ASTR 350/360** Introduction to Astrophysics—Stars, Galaxies, and Cosmology
3 courses from: **ASTR 450** Experimental Space Science, **ASTR 451** Solar and Stellar Astrophysics, **ASTR 452** Galaxies and Cosmology, **ASTR 470** Solar System Physics,
**PHYS 312** Introduction to Quantum Physics II,
**PHYS 480** Introduction to Plasma Physics
**PHYS 491/492** Undergraduate Research
**PHYS 493/494** Undergraduate Research Seminar

(The undergraduate research course and seminar must be taken concurrently.)

**NSCI 230** Computation in Natural Science or
**CAAM 210** Introduction to Engineering Computation
**CAAM 336** Differential Equations in Science and Engineering
**CHEM 121** General Chemistry with Laboratory

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
Additional courses for the BA degree in astronomy

PHYS 302 Intermediate Electrodynamics
1 of: PHYS 331 Junior Physics Laboratory I, NSCI 230 Computation in Natural Science or CAAM 210 Introduction to Engineering Computation
PHYS 425 Statistical and Thermal Physics or CHEM 311 Physical Chemistry
ASTR 230 Astronomy Laboratory
ASTR 350/360 Introduction to Astrophysics—Stars, Galaxies, and Cosmology
ASTR 470 Solar System Physics
1 of: ASTR 430 Teaching Astronomy Laboratory, ASTR 450 Experimental Space Science, or PHYS 443 Atmospheric Science

Additional courses for the BS degree in chemical physics

CHEM 121/122 General Chemistry or CHEM 151/152 Honors Chemistry

Requirements for Advanced Degrees

For general university requirements, see Graduate Degrees (pages 61–62). 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 normally is accomplished by successfully completing the work for the MS. Students also must 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 Ostdiek

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 addresses theoretical issues as well as applied and prescriptive policy questions.

Students may take policy studies only as a 2nd 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 also may elect to participate in the Washington Semester Program at American University, which includes both course work and an internship in the federal government, or students may participate in selected Study Abroad programs for course credit, some of which also have internship experiences in foreign settings. See the Policy Studies director for more information.

DEGREE REQUIREMENTS FOR BA IN POLICY STUDIES

For general university requirements, see Graduation Requirements (pages 16–19). Students may take the policy studies major only as a 2nd major (their 1st 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 on which they choose to focus. The 4 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 also are required to take 6 courses from 1 of the following areas of specialization or in an area approved by the Policy Studies director:

- Environmental policy
- Government policy and management
- Healthcare management
- International affairs
- Law and justice
- Business policy and management
- Urban and social change
In consultation with the Policy Studies director, each student also must select a research seminar or complete an approved research project through independent study or other course credit. The Policy Studies Research Seminar (SOSC 400) also counts for this requirement.

4 Basic Curriculum Courses
ECON 211 or 212 *Principles of Economics I or II*
POLI 337 *Public Policy and Bureaucracy*
POLI 338/SOSC 301 *Policy Analysis*
1 advanced analysis or methods course approved by the Policy Studies director

6 Area Curriculum Courses
6 courses from 1 of the following 7 groups (specific course substitutions may be approved by the Policy Studies director)

1. Environmental Policy
(Choose 6)
ANTH 468 *Palaeoclimate and Human Response*
ARCH 313 *Sustainable Architecture*
BIOS 323 *Conservation Biology*
BIOS 325 *Ecology*
CEVE 201 *Introduction to Environmental Systems*
CEVE 306 *Global Environmental Law and Sustainable Development*
CEVE 406 *Introduction to Environmental Law*
ECON 480 *Environmental and Energy Economics I*
ENGL 478 *Literature and the Environment*
ENST 303 *Environmental Problem Solving*
PHYS 203 *Atmosphere, Weather, and Climate*
POLI 331 *Environmental Politics and Policy*
POLI 336 *Politics of Regulation*
RELI 362 *Environmental Ethics*
SOCI 367 *Environmental Sociology*

Economics I
ECON 483 *Public Finance*
HIST 468 *Women and the Welfare State*
POLI 300 *Federalism and Intergovernmental Politics*
POLI 301 *State Politics*
POLI 330 *Minority Politics*
POLI 331 *Environmental Politics and Policy*
POLI 332/432 *Urban Politics*
POLI 335 *Political Environment of Business*
POLI 436 *Politics of Regulation*
POLI 458 *Property Rights and Privatization*
SOCI 308 *Houston: The Sociology of a City*
SOCI 331 *Politics and Society in Texas*
SOCI 350 *Sociological Approaches to Poverty*
SOCI 370 *Sociology of Education*
SOCI 399 *Immigration and Public Health*
SOCI 411 *Social Change*
SOCI 441 *Minorities in the Schooling Process*
SOSC 330 *Healthcare Reform in the 50 States*
SOSC 430 *The Shaping of Health Policy in the United States*

2. Government Policy and Management
(Choose 6)
ANTH 344 *City/Culture*
CEVE 406 *Introduction to Environmental Law*
ECON 436 *Government Regulation of Business*
ECON 438 *Economics of the Law*
ECON 461 *Urban Economics*
ECON 480 *Environmental and Energy Economics I*

3. Healthcare Policy and Management
(Choose 6)
ANTH 381 *Medical Anthropology*
ANTH 386 *Human Nutrition*
ANTH 388 *Life Cycle: A Biocultural View*
HEAL 212 *Consumer Health*
HEAL 350 *Understanding Cancer*
HEAL 407 *Epidemiology*
HEAL 410 *Program Development in Health Education*
PHIL 315 *Ethics, Medicine, and Public Policy*
RELI 462/463 *Medical Ethics and American Values I and II*
SOCI 334 *Sociology of the Family*
SOCI 345 *Sociology of Medicine*
SOCI 399 *Immigration and Public Health*
SOSC 330 *Healthcare Reform in the 50 States*
SOSC 420 Healthcare: Competition and Managed Care
SOSC 430 The Shaping of Health Policy in the United States
SPAN 307/308 The Language of Healthcare

4. International Affairs
(Choose 6)
ECON 420 International Economics
ECON 421 International Finance
ECON 430 Comparative Economic Systems
ECON 451 Political Economy of Latin America
HIST 464 Foreign Policy Seminar
HIST 469 U.S.–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 372 American Foreign Policy
POLI 373 International Conflict
POLI 376 International Political Economy
POLI 378 The Politics of American National Security Policy
POLI 462 Comparative Public Policy
POLI 464 Political Economy of Development

5. Law and Justice
(Choose 6)
ANTH 326 Anthropology of Law
ANTH 419 Law and Society
CEVE 406 Introduction to Environmental Law
ECON 438/439 Economics of the Law I and II
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)
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 435 Industrial Organization
ECON 436 Government Regulation of Business
ECON 445 Managerial Economics
ECON 448 Corporation Finance
PSYC 231 Industrial and Organizational Psychology
POLI 335 Political Environment of Business
POLI 336 Politics of Regulation
POLI 376 International Political Economy
POLI 458 Property Rights and Privatization
POLI 464 Political Economy of Development

7. Urban and Social Change
(Choose 6)
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
HART 325 Art and Architecture in the Middle East
HIST 429 Technologies of Nationalism
PHIL 307 Social and Political Philosophy
POLI 332 Urban Politics
POLI 438 Race and Public Policy
POLI 441 Common Property Resources
SOCI 301 Social Inequality
SOCI 308 Houston: The Sociology of a City
SOCI 309 Race and Ethnic Relations
SOCI 310 Urban Sociology
SOCI 313 Demography
SOCI 411 Social Change
**Political Science**

**The School of Social Sciences**

**Chair**
Rick K. Wilson

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Paul Brace
Gilbert Morris Cuthbertson
Keith Edward Hamm
William P. Hobby
Mark P. Jones
David W. Leebron
T. Clifton Morgan
Lyn Ragsdale
Jerrold G. Rusk
Robert M. Stein
Richard J. Stoll

**Professors Emeriti**
John S. Ambler
Chandler Davidson
Fred R. von der Mehden

**Associate Professors**
John R. Alford
Brett Ashley Leeds
Melissa J. Marschall
Lanny W. Martin
William Reed
Randolph T. Stevenson

**Assistant Professors**
Regina P. Branton
Royce A. Carroll

**Assistant Professor in the Practice**
Karoline L. Mortensen

**Lecturer**
C. M. Hudspeth

**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 politics and comparative politics and politics and international relations (see also majors in managerial studies and public policy). Graduate study is grounded in the areas of American politics, comparative politics, and international relations.

**Degree Requirements for BA in Political Science**

For general university requirements, see Graduation Requirements (pages 16–19). 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.

**Political science degree requirements are as follows:**

- At least 1 course in each of the following fields: American politics, 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 politics, comparative politics, and international relations. These 4 courses must include the introductory course and a seminar.
- A statistics course offered by the Department of Political Science.
- Two seminars, at the 400 or 500 level, with different instructors.
• POLI 110 and 112 do not satisfy any requirement for the political science major

**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 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, 1-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 2 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 2-semester program, students take a readings course that provides them with a basis for drawing up a thesis prospectus. At the end of the 1st semester, a thesis committee composed of 2 full-time members of the political science department reviews and approves the prospectus. During the 2nd semester, students write their honors thesis, which also must meet with committee approval. Students may not combine the 2 honors courses into 1 semester. Those who successfully complete the honors program may substitute it for 1 of the seminars required for the major. Failure to complete the 2nd semester of the honors program will result in loss of credit for the 1st semester of the honors program.

Alternatively, students may earn honors in political science by successfully completing the Rice University Honors Program (RUSP), HONS 470/471. In addition to successfully completing this program, the student must complete a research project in political science, and the student must be supervised by a full-time faculty member in the political science department. See also Honors Programs (page 28).

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

For general university requirements, see Graduate Degrees (pages 61–62). 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 politics, comparative politics, and international relations, completing additional
course work and comprehensive examinations in 2 of those 3 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 advisor.

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 3 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 SCIENCE

DEPARTMENT FACULTY

CHAIR
Stephan J. Motowidlo

PROFESSORS
James L. Dannemiller
Randi C. Martin
James R. Pomerantz
David J. Schneider

PROFESSORS EMERITI
John W. Brelsford
Kenneth R. Laughery

PROFESSOR IN THE PRACTICE
Philip T. Kortum

ASSOCIATE PROFESSORS
Sarah A. Burnett
Michael D. Byrne
Michelle (“Mikki”) R. Hebl
David M. Lane
Frederick L. Oswald

ASSISTANT PROFESSORS
Daniel J. Beal
Margaret E. Beier
E. Darcy Burgund
Xiaohong Denise Chen
Jessica Logan
Tatiana Schnur
Anton J. Villado

ASSOCIATE PROFESSORS EMERITI
John H. Byrne
John M. Cornwell
William C. Howell
Paul Richard Jeanneret
Harvey S. Levin
Katherine A. Loveland
Lynn M. Maher
John E. Overall
Anthony A. Wright

ASSOCIATE PROFESSORS IN THE PRACTICE
Philip C. Burton
L. Robert Slevc

JOINT APPOINTMENTS

PROFESSORS
Jennifer M. George
H. Albert Napier
Ronald N. Taylor
Rick K. Wilson

ASSOCIATE PROFESSORS
Richard R. Batsell
Steven C. Currall
D. Brent Smith

ADJUNCT APPOINTMENTS

ADJUNCT PROFESSORS
John H. Byrne
John M. Cornwell
William C. Howell
Paul Richard Jeanneret
Harvey S. Levin
Katherine A. Loveland
Lynn M. Maher
John E. Overall
Anthony A. Wright

ADJUNCT ASSOCIATE PROFESSORS
S. Morton McPhail
Deborah A. Pearson
Anne Bibiana Sereno
Kevin C. Wooten

ADJUNCT ASSISTANT PROFESSORS
Michael Beauchamp
Janice Bordeaux
Harold K. Doerr
David M. Eagleman
Ronald E. Fisher
Rachel Winer Flannery
S. Camille Peres
Betty S. Sanders
Angela L. Stotts
Mihriban Whitmore

ADJUNCT INSTRUCTORS
Roberta M. Diddel

VISITING SCHOLAR
Mary R. Newsome

RESEARCH FACULTY

POSTDOCTORAL RESEARCH ASSOCIATE
Philip C. Burton
L. Robert Slevc
Degrees Offered: BA, MA, Ph

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. An important feature of our doctoral program is its strong research orientation. Students are expected to spend a good portion of their graduate years actively engaged in research and are expected to acquire a high level of research competence. Faculty research interests and areas of specialization for graduate students include: cognitive psychology (basic mental activities as perceiving, attending, remembering, learning, judging, verbalizing, and imagining), systems and cognitive neuroscience (understanding the relationship between the human brain and higher forms of behavior), human factors/human–computer interaction (the scientific discipline concerned with the understanding of interactions among humans and other elements of a system and the application of theories, principles, data and other methods of design in order to optimize human well-being and overall system performance), industrial and organizational psychology (human behavior in organizational and work situations), perception (psychology of sensory and perceptual systems in humans and animals), social/personality (examines both the way people think about, influence, and interact with others as well as individual differences in people that accentuate such cognitions and behaviors), and training (broad interdisciplinary area drawing on cognitive psychology, industrial/organizational psychology, and educational psychology).

Degree Requirements for BA in Psychology

For general university requirements, see Graduation Requirements (pages 16–19). Students majoring in psychology must complete 29 semester hours in departmental courses, including the following required courses.

Core Courses
PSYC 101 Introduction to Psychology
PSYC 202 Introduction to Social Psychology
PSYC 203 Introduction to Cognitive Psychology
PSYC 339 Statistical Methods—Psychology
PSYC 340 Research Methods (no substitutions or transfer credits allowed for PSYC 339 or 340)

At least 1 course from each block

Block 1
PSYC 308 Memory
PSYC 309 Psychology of Language
PSYC 350 Psychology of Learning
PSYC 351 Psychology of Perception
PSYC 360 Thinking
PSYC 362 Biopsychology
PSYC 375 Neuropsychology of Language and Memory

Block 2
PSYC 321 Developmental Psychology
PSYC 329 Psychological Testing
PSYC 330 Personality Theory
PSYC 331 The Psychology of Gender
PSYC 332 Abnormal Behavior
PSYC 352 The Psychology of Emotion and Motivation

*No substitutions or transfer credits allowed to fulfill Block 1 and 2 requirements. Once enrolled at Rice, students must have prior approval from the psychology department to transfer courses taken at another college or university.

Students are encouraged to take PSYC 339 and PSYC 340 as soon as possible, preferably by the end of their sophomore year.
**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 4th 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 28). 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 61–62). 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. Required coursework is determined by the student's research area (cognitive, cognitive neuroscience, human factors/human–computer interaction, industrial organizational, perception, or training.) Competence in a foreign language is not required.

See PSYC in the Courses of Instruction section.
RELIGIOUS STUDIES

THE SCHOOL OF HUMANITIES

Chair
Jeffrey J. Kripal

Professors
Elias K. Bongmba
April D. DeConick
Anne C. Klein
Anthony B. Pinn
John M. Stroup

Professors Emeriti
Werner H. Kelber
Niels C. Nielsen, Jr.
Edith Wyschogrod

Associate Professors
David Cook
Matthias Henze
William B. Parsons

Assistant Professor
Gregory Kaplan

Adjunct Associate Professor
B. Jill Carroll

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 16–19). In addition, students also must 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 17–18) and Majors (pages 19–20).

Students majoring or double-majoring in religious studies must complete:

• 30 hours for majors
• 24 hours for double majors
• 18 hours must be selected at 300-level or above
• No more than 2 courses (6 hours) may be transferred from outside the department

The following requirements must be met. For details about the categories of offerings, the departmental list should be consulted. It is updated every semester and can be obtained from the undergraduate advisor.

• Reli 303 The Craft of Religious Studies
• 1 course from 2 of these 3 categories of offerings: textual and historical studies; philosophy, ethics, theology, and contemplative studies; and religion and the arts and science
• 1 course taken in the senior year from the category of offerings 400-level Senior Seminar
• 5 elective courses for majors; 3 elective courses for double majors
• To ensure coverage of religious traditions, 2 courses selected in the major must cover 2 of 3 religious traditions (Abrahamic, Asian, African, and African-American)

Honors Program. Qualified undergraduates may choose the option of writing a senior thesis. To complete this thesis, the student must elect RELI 400 Honors in Religious Studies. Students must have at minimum 3.2 GPA in their religious studies courses before undertaking thesis work, and they must obtain the permission of a faculty advisor who will supervise the project during the senior year.

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 61–62). Students admitted into the program normally will 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 5-year program. Course requirements for students without a relevant MA or MDiv (based on 3 courses per semester):
• 18 courses (54 hours required); 36 hours for students with a relevant MA or MDiv
• 2 department seminars to be taken in each of the 1st 2 years
• Passing grades on reading examinations in 2 secondary research languages approved by the faculty before taking qualifying exams.
• Passing grades in 4 qualifying examinations
• Oral discussion of dissertation proposal
• Satisfactory completion of dissertation and oral defense

Reading Lists—Reading lists are available for all Qualifying Exams. 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.

Professional Development

Opportunities may be available to teach undergraduate courses in the department or in local colleges and universities. Limited funds also are available for students to attend conferences to present their research. The department encourages these and other efforts to prepare students for academic careers.

See RELI in the Courses of Instruction section.
The School of Social Sciences

Degree Offered: 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 also is an important component of a liberal arts education and, as such, can serve as effective preparation for professions like 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 16–19). Students majoring in sociology must complete at least 33 semester hours (11 courses) in sociology. Requirements for the major include the following:

- At least 1 theory course, such as:
  - SOCI 250 Social Theory
  - SOCI 275 Feminist Social Thought

1 of the following:
- SOCI 290 Research Methods
- SOCI 241 The Craft of Sociology

Any other sociology courses to reach a total of 11

Sociology majors are not required to take a foreign language, but those planning graduate study should be competent in at least 1 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 the department advisor should sign each major's registration.

Honors Program

The Honors Program is designed to provide sociology majors with the opportunity to sharpen their research skills and deepen their understanding of the discipline through a 2–3 semester program of directed independent research and writing. The program also offers the opportunity for formal recognition, through Departmental Honors, of those undergraduates who have demonstrated unusual competence in sociology by successfully completing a sustained independent research project.

Eligibility—To be eligible for the program, students must have taken at least 4 sociology courses beyond SOCI 101 Introduction to Sociology, including SOCI 301 Research Methods. If their project requires statistical analysis, students also should
complete SOCI 302 Social Statistics before beginning their research. An A- average in all sociology courses taken also is required.

**Application Process**—During the fall and early spring semester of their junior year, students are invited to consult with members of the faculty about a potential thesis topic. All students must have at least 1 faculty member in the sociology department approve their topic and agree to serve as their thesis committee chair.

Once a thesis supervisor has been identified, the student must submit a written description of their proposed research project to the departmental undergraduate advisor, Dr. Bridget Gorman. The proposal should be 2–3 pages in length (double-spaced) and is due by April 1st of their junior year.

The sociology faculty will vote on the merits of the proposed thesis project at their monthly faculty meeting in mid-April. If approved, the student may begin work on the thesis immediately, or at a start time agreed on with their thesis supervisor (including summer semester, if desired).

**Program**—Students in the Honors Program register for 2 successive semesters in Directed Honors Research (SOCI 492 and 493). An honors thesis typically involves much discussion over both semesters between the student and their primary advisor. Students should meet early in the process to agree on ground rules for the project, to choose the other members of the thesis committee (made up of two additional faculty members, sometimes from other departments, who serve as readers and ad-hoc advisors), and to set up a schedule for discussions and submission of written work. It is the department's experience that students who work alone without much consultation with faculty are less likely to succeed in their project than students who maintain close contact with their advisor and the department. Students also are encouraged to include other members of the committee in discussion of the thesis, especially as the project nears completion, so that their feedback can be incorporated before the final draft of the project is submitted.

Students normally begin by conducting a thorough review of the relevant literature, formulating hypotheses that grow out of the literature review, and proposing a research design that clearly describes how the data for the project are to be collected and analyzed. The research itself is usually carried out in the fall semester of the senior year (and sometimes in the summer following the junior year), and is analyzed, written up, and defended as a completed Honor's Thesis during the spring semester of the senior year. (Students are encouraged to examine several previously written theses, which are available from Patsy Garcia, the sociology department coordinator.)

The thesis is read and evaluated by the student's primary advisor and the other faculty members, who make up the student's thesis committee.

**Program Timeline**—A 1st draft of thesis must be turned in to the committee members no later than February 1 of the student's senior year.

After receiving feedback on the project, the student has until the last Monday in March to submit a final draft of the senior thesis to their committee.

A short presentation (10–15 minutes) of the thesis project must be given to the full sociology faculty by mid-April. Faculty will vote on whether to grant Departmental Honors to the student at the conclusion of their presentation.

**Course requirements for a Minor in Sociology**

6 classes total (18 credits)

**Required Classes:** Introduction to Sociology

1 methods OR theory course

**Elective Classes:** 4 electives (12 credits), including at least 1 400-level class.

See SOCI in the Courses of Instruction section.
SPORT MANAGEMENT

THE SCHOOL OF HUMANITIES

DIRECTOR AND PROFESSOR
OF THE PRACTICE
Clark D. Haptonstall

ASSOCIATE PROFESSOR
James G. Disch

LECTURERS
Tom Stallings
Jason Sosa
Patrick Thornton

DEGREES OFFERED: BA

For general university requirements, see Graduation Requirements (pages 16-19). For the BA degree, students majoring in sport management must complete a minimum of 45 credit hours.

Core Requirements (27 hours)

SMGT 260 Introduction to Sport Management
SMGT 276 Sport Management Practicum
SMGT 360 Sales and Revenue Generation in Sport
SMGT 362 Sport Marketing
SMGT 364 Sport Law
SMGT 366 Event and Facility Management
SMGT 376 Sport Management Internship I
SMGT 377 Sport Management Internship II
SMGT 466 Media Relations

Research Requirement (3 hours)

KINE 319 Introduction to Measurement and Statistics
SMGT 405 Research in the Sport Management Industry

Verbal Communication Requirement (3 hours)

HUMA 201 Public Speaking
HUMA 308 Business and Professional Speaking
HUMA 309 Argumentation and Debate

Written Communication Requirement (3 hours)

LEAD 321 Leadership Communication
HUMA 250 Writing for Print Media

Electives (9 hours)

BUSI 296 Business Communications
BUSI 305 Financial Accounting
BUSI 310 Leading People in Organizations
BUSI 343 Financial Management
BUSI 380 Marketing
BUSI 471 Strategic Management
ECON 211 Principles of Economics
ECON 370 Microeconomic Theory
MANA 404 Management Communications
STAT 280 Elementary Applied Statistics

DESCRIPTION

Sport Management is an interdisciplinary field of study that draws from a wide range of academic disciplines, including business, management, law, and
communication. 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 of the sport management major aims to educate students in the skills and theory necessary to assume leadership roles both in and out of sport.

Career preparation for leadership and entrepreneurial positions is the ultimate goal of the sport management major at Rice. Students will acquire a solid academic and practical foundation and thus will be competitive for opportunities that include entering the sport business industry or applying to the country’s best law and business schools.

Students will complete a minimum of one internship prior to graduation, often with one of the professional teams in Houston (Rockets, Astros, Texans, Dynamo, Comets, and Aeros). Students also will receive networking and out-of-class developmental training, as these play a significant role in obtaining high-profile positions in collegiate and professional sports.

Rice is one of a very small number of universities that has received “program approval status” from the North American Society of Sport Management. This is the highest level of academic achievement available in the field.

Students are encouraged to go to www.sport.rice.edu for the latest information about the major.

See SMGT in the Courses of Instruction section.
STATISTICS

THE GEORGE R. BROWN SCHOOL OF ENGINEERING

Chair
Katherine B. Ensor

Professors
Bryan W. Brown (joint appointment: Economics)
Dennis Cox
Mahmoud El-Gamal (joint appointment: Economics)
Katherine B. Ensor
Rudy Guerra
Don H. Johnson (joint appointment: Electrical and Computer Engineering)
Marek Kimmel
Javier Rojo
David W. Scott
Robin Sickles (joint appointment: Economics)
James R. Thompson
Marina Vannucci
Edward E. Williams (joint appointment: Jones Graduate School of Management)
Rick K. Wilson (joint appointment: Political Science)

Associate Professors
David M. Lane (joint appointment: Psychology)
Barbara Ostdiek (joint appointment: Jones Graduate School of Management)

Assistant Professor
Hadley Wickham

Adjunct Professors
Christopher I. Amos
E. Neely Atkinson
Donald A. Berry
Barry W. Brown
Kim-Anh Do
Richard Heydorn
Valen Johnson
J. Jack Lee
Peter Müller
Gary Rosner

Adjunct Associate Professors
Keith A. Baggerly
Scott B. Cantor
Joaquin Diaz-Saiz
Yu Shen
Sanjay Shete
Ya-Chen Shih

Adjunct Assistant Professors
Olga Y. Gorlova
Chad A. Shaw
Ilya Shmulevick

Lecturer
L. Scott Baggett

Faculty Fellow
Janet Siefert

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 application 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, spatiotemporal processes, stochastic processes, and time series analysis. A joint MBA/master of statistics degree also is 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 16–19). The degree requirements in statistics are:

- 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 405 *Statistical Computing and Graphics*
- STAT 410 *Introduction to Statistical Computing and Regression*
- 6 elective courses at the 300 level or higher. At least 4 courses must be from the Department of Statistics. Courses not from the Department of Statistics require approval from a statistics major advisor. STAT 305 and STAT 331 may not count as electives; jointly they may substitute for STAT 310.

Mathematically oriented students should also take MATH 212 *Multivariable Calculus* and MATH 355 *Linear Algebra* (or CAAM 335 *Matrix Analysis*).

The department offers a minor in computational finance jointly with the economics department (see Financial Computation and Modeling minor).

Degree Requirements for MStat, MA, and PhD in Statistics

For general university requirements, see Graduate Degrees (pages 61–62). 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 1 of the following: (1) complete an original thesis and defend it in a public oral examination; or (2) perform satisfactorily on the 2nd-year PhD comprehensive examinations and complete a major project.

**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. All STAT graduate students are assigned a limited amount of teaching and other departmental service as part of their graduate education. The assignment usually entails less than 10 hours per week, averaged over the semester. Students completing the PhD degree in four years will be assigned no more than six semesters of service.

See STAT in the Courses of Instruction section.
THE STUDY OF WOMEN, GENDER, AND SEXUALITY

DIRECTOR AND ADVISOR
Rosemary Hennessy

PROFESSORS
Elias K. Bongmba
Jane Chance
Marcia J. Citron
April D. DeConick
Margret Eifler
James D. Faubion
Beatriz González-Stephan
Rosemary Hennessy
Anne C. Klein
Jeffrey J. Kripal
Caroline F. Levander
Elizabeth Long
Susan Keech McIntosh
Helena Michie
Deborah Nelson-Campbell
Robert L. Patten
Paula Sanders
Meredith Skura
Ewa M. Thompson

ASSOCIATE PROFESSORS
José F. Aranda, Jr.
Marcia Brennan
Krista Comer
Scott S. Derrick

Eugenia Georges
Bridget K. Gorman
Deborah A. Harter
Michelle R. Hebl
Betty Joseph
María-Regina Kecht
Colleen R. Lamos
Susan Lurie
Nancy A. Niedzielski
Nanxu Qian
Carol E. Quillen
Allison Sneider
Sarah Westphal
Lora Wildenthal

ASSISTANT PROFESSORS
Joseph Campana
Sarah Ellenzweig
Julie Fette
Holly Heard
Rachel Kimbro
Kirsten Ostherr
Elora Shehabuddin

PROFESSOR OF THE PRACTICE
Diana L. Strassmann

LECTURER
Thad Logan

DEGREES OFFERED: BA AND GRADUATE CERTIFICATE

The undergraduate major, honors track 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, gender, and sexuality 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, gender, and sexuality must complete:
• 36 semester hours of departmental course work (30 hours if this is a 2nd major)
• SWGS 101 *Introduction to the Study of Women, Gender, and Sexuality*, or SWGS 201 *Introduction to Lesbian, Gay, Bisexual, and Transgender Studies*
• SWGS 345 *History of Feminism* or at least one approved theory course
• SWGS 496 *Engaged Research Practicum in the Study of Women, Gender, and Sexuality* and SWGS 497 *Engaged Research Seminar in the Study of Women, Gender, and Sexuality*
• At least 1 approved non-Western studies course
• At least 1 approved critical race studies course

For students who pursue the Honors Program, the following 2 courses must be taken in place of SWGS 496 and SWGS 497, in addition to all other requirements listed above:
• SWGS 498 *Honors Research in the Study of Women, Gender, and Sexuality* (F)
• SWGS 499 *Honors Research in the Study of Women, Gender, and Sexuality* (S)

Of the remaining required courses, no more than 4 courses may be from a single department. All students must work out their individual courses of study with their faculty advisors. Each student's course of study must be approved by the director. Course requirement tracking forms are available in the SWGS office for declared SWGS majors.

**New SWGS Major**

In fall 2008 a new SWGS major will be available to undergraduates. The aim of the new major is to involve students directly in the feminist effort to integrate theory and practice both in the introductory required course and in the SWGS 496 *Engaged Research Practicum* and SWGS 497 *Engaged Research Seminar* that connect research to on-site work in a public service agency or organization outside the university.

The number of required credit hours (36) and all course requirements in the new major will remain the same as the former major, with the exception of the courses SWGS 498 and SWGS 499, which will now be required only of students choosing the Honors Program. Students pursuing the new general course of study will take SWGS 496 *Engaged Research Practicum* and SWGS 497 *Engaged Research Seminar* in the Study of Women, Gender, and Sexuality in their junior or senior year.

The *Engaged Research Practicum* and *Seminar* are open to nonmajors. Permission of the instructor is required as well as some background in the study of women, gender, or sexuality.

**The SWGS Honors Track**

Students wishing to pursue the Honors Program will complete a thesis. The process of preparing the thesis begins in the late spring of the junior year.

In that spring semester, the student chooses an advisor from the SWGS faculty, and with that advisor, produces a proposal for a research project. The proposal must be approved by the SWGS steering committee by the last day of the exam period in the spring of the junior year.
In the fall of the senior year, students enroll in SWGS 498, for directed research supervised by a CSWGS faculty affiliate and in regular consultation with their advisors.

In the spring of the senior year, students enroll in SWGS 499 and work closely with their advisors as they complete the thesis. Honors students present their projects in a public event at the end of the semester.

**SWGS Courses**

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 advisors or with the director at the beginning of each semester.

Please note that not all courses listed below will be offered every academic year. For a current list of courses that will be offered in fall 2008 and spring 2009, please visit the CSWGS Web site at cswgs.rice.edu.

### I. Courses that Satisfy the Core Requirements

- **SWGS 101** Introduction to the Study of Women, Gender, and Sexuality
- **SWGS 201** Introduction to Lesbian, Gay, Bisexual, and Transgender Studies
- **SWGS 496** Engaged Research Practicum in the Study of Women, Gender, and Sexuality
- **SWGS 497** Engaged Research Seminar in the Study of Women, Gender, and Sexuality
- **SWGS 498** Honors Research in the Study of Women, Gender, and Sexuality (F)
- **SWGS 499** Honors Research in the Study of Women, Gender, and Sexuality (S)

### II. Courses that Satisfy the Non-Western Studies Requirement

- **SWGS 240** Gender and Politicized Religion
- **SWGS 250** International Political Economy of Gender
- **SWGS 283** Women in the Modern Islamic World
- **SWGS 315** Gender and Islam
- **SWGS 323** The Knowing Body: Buddhism, Gender, and the Social World
- **SWGS 340** Gender and Politicized Religion (enriched version)
- **SWGS 399** Women in Chinese Literature
- **SWGS 422** Gender and Global Economic Justice
- **SWGS 455** Women and Gender in Medieval Islam

### III. Courses that Satisfy the Critical Race Studies Requirement

- **SWGS 234** U.S. Women's History I: Colonial Beginnings to the Civil War
- **SWGS 235** U.S. Women's History II: Civil War to the Present
- **SWGS 370** Survey of African American Literature
- **SWGS 387** Cultural Studies
- **SWGS 415** Sociolinguistics
- **SWGS 453** Topics in African American Literature: Black Women Writers
- **SWGS 468** Women and the U.S. Welfare State: Sexual Politics and American Poverty

### IV. Courses that Satisfy the Theory Requirement

- **SWGS 303** Women's Stories and Legal Change
- **SWGS 345** History of Feminism
- **SWGS 380** Feminist Theory North and South
- **SWGS 391** Producing Feminist Knowledge: Methodology and Visual Culture
- **SWGS 395** Feminist Knowledges
- **SWGS 430** Queer Theory
- **SWGS 434** French Feminist Theory
- **SWGS 460** Feminist Social Thought
- **SWGS 480** Feminist Literary Theory
- **SWGS 482** Problems in Contemporary Feminist Theory
**V. Other Courses**

SWGS 105 *Language, Gender, and Sexuality*

SWGS 130 *Mapping German Culture: Women and National Socialism*

SWGS 205 *Language and Society*

SWGS 220 *Gendered Perspectives on the Law*

SWGS 225 *Women in Greece & Rome*

SWGS 301 *Arthurian Literature*

SWGS 305 *Chaucer*

SWGS 306 *Human Sexuality*

SWGS 307 *Sexuality and Christianity*

SWGS 324 *Sociology of Gender*

SWGS 325 *Sociology of the Family*

SWGS 327 *20th-Century Women Writers*

SWGS 329 *Literature and Culture of the American West*

SWGS 330 *Mapping German Culture: Courtship, Love, and Marriage in the Age of Chivalry*

SWGS 331 *The Psychology of Gender*

SWGS 332 *Self, Sex, and Society in Ancient Greece*

SWGS 335 *The Lifecycle: A Biocultural View*

SWGS 342 *Gender, Race, and Technoscience*

SWGS 343 *Women and Performance*

SWGS 345 *History of Feminism*

SWGS 348 *Subjectivity in Modern and Postmodern Art and Thought*

SWGS 349 *Women Writers: 1400-1900*

SWGS 350 *Gender and Symbolism*

SWGS 358 *Mapping German Culture: European Women Filmmakers*

SWGS 361 *New German Cinema*

SWGS 365 *Gender, Subjectivity, and the History of Photography*

SWGS 366 *Topics in American Literature*

SWGS 367 *Southwest Narrative: Writing from Below*

SWGS 368 *Mythologies*

SWGS 369 *Seminar on Beauty and Fragmentation in Modern Art*

SWGS 372 *Survey of Victorian Fiction*

SWGS 389 *Generation X in Literature and Culture*

SWGS 390 *Hispanic Cinema*

SWGS 398 *Topics in Legal History*

SWGS 400 *Constructing Identities in Modern Fiction*

SWGS 405 *Austen Only*

SWGS 410 *The Literary and Historical Image of the Medieval Woman*

SWGS 412 *Women and Women’s Voices in French Literature*

SWGS 420 *Women and Gender in 19th-Century Europe*

SWGS 440 *Women in Music*

SWGS 442 *Women in Russian Literature*

SWGS 444 *Family and Inequality*

SWGS 448 *Disease and Difference: The Body in Visual Culture*

SWGS 462 *20th–21st-Century American Literary Studies*

SWGS 465 *Gender and Health*

SWGS 470 *Sex, Sanctity, and Psychoanalysis*

SWGS 485 *Gender and Hollywood Cinema in the 1950s*

SWGS 486 *Medicine and Media*

SWGS 495 *Independent Study*

**Requirements for Graduate Certificate in the Study of Women and Gender**

The graduate certificate program in the study of women, gender, and sexuality is designed to provide interdisciplinary training in women, gender, and sexuality 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 SWGS graduate certificate program. The SWGS graduate certificate is not a free-standing degree program; in addition to fulfilling the SWGS requirements outlined...
below, candidates will be required to successfully complete the PhD program in which they have been admitted in order to receive the graduate certificate in SWGS. Further information is available on request from the SWGS office. For PhD requirements, see the relevant department. For general university requirements, see Graduate Degrees in this publication.

The program awards graduate fellowship stipends, within the limits of available funds, to enrolled 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 after passing the qualifying examinations in the PhD program. Graduate students who enroll in the certificate program in fall 2008 and in subsequent semesters will be asked to submit a dissertation proposal (or a 500-word statement with a proposal to follow later) that includes some indication of the ways women, gender, and/or sexuality feature in their project in order for a stipend to be disensed during the “prospectus semester.” SWGS will ask for this proposal or statement after the student completes qualifying exams. Graduate certificate students are eligible to work as teaching assistants for an SWGS 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 SWGS, candidates must complete:

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

SWGS certificate students are strongly encouraged to include a member of the CSWGS 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 programs. All students must work out their individual courses of study with the CSWGS director and the graduate advisor in their home departments. Each student’s course of study must be approved by the CSWGS director. Please note that not all courses listed below will be offered every academic year. For a current list of courses that will be offered in fall 2008 and spring 2009, please visit the CSWGS Web site at cswgs.rice.edu.

### I. Courses that Satisfy the Core Requirements

- SWGS 501 *Feminist Debates*
- SWGS 502 *Gender, the Disciplines, and Interdisciplinarity*

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

- SWGS 503 *Directed Reading*
- SWGS 517 *Medieval Women Writers*
- SWGS 520 *Shakespeare and Difference*
- SWGS 522 *Feminist Economics*
- SWGS 525 *Self, Sex, and Society in Ancient Greece*
- SWGS 542 *Victorian Fiction*
- SWGS 545 *Women and Gender: Europe and Beyond*
- SWGS 546 *20th-Century British Literature*
- SWGS 551 *U.S. Women’s History*
- SWGS 556 *Seminar in Language Variation*
- SWGS 576 *Topics in U.S. Women’s History*
- SWGS 577 *Buddhism, Gender, Society*
- SWGS 580 *Sex, Sanctity, and Psychoanalysis*
III. Annual Colloquium Requirement

Graduate certificate students will participate in a colloquium involving a series of speakers over the course of a year, to be offered annually at Rice and organized by the Center for the Study of Women, Gender, and Sexuality (CSWGS). Colloquium attendance by graduate certificate students constitutes an official requirement for the certificate. Normally, students are expected to attend colloquia over a minimum of 4 semesters, and attendance beyond that is highly encouraged. Colloquium topics will be determined by the CSWGS steering committee with a view to highlighting emerging knowledge in gender, sexuality, and women’s studies. The colloquium provides graduate students with the opportunity to engage in sustained intellectual exchange with leading scholars and to participate in producing cutting-edge work in the field.
Degrees Offered: MS

Rice University introduced the 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 2 focus areas: geology and geophysics. 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 1 of 3 tracks in the 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 within oil-and gas-related industries.

Degree Requirements for MS in Subsurface Geoscience

In addition to core science courses, students are required to complete a 3- to 6-month internship and take a set of cohort courses focusing on business and communication. Students select a group of elective courses from 1 of 2 focus areas: geology or geophysics. 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. For general university requirements for graduate study, see pages 69-70, and see also Professional Degrees, page 62.
Admission

Admission to graduate study in subsurface geoscience is open to qualified students holding a bachelor’s degree in science that includes course work 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 415 Petroleum Geology (S)
ESCI 417 Petroleum Industry Economics and Management (S)
ESCI 420 Modern Industrial Exploration Techniques (S)
ESCI 440 Geophysical Data Analysis: Digital Signal Processing or
ESCI 441 Geophysical Data Analysis: Inverse Theory
ESCI 444 Exploration Geophysics II (S)

Cohort courses:
NSCI 501 Professional Master’s Seminar (F, S) [required for 2 semesters]
NSCI 511 Science Policy and Ethics (S)
NSCI 512 Professional Master’s Project (F, S)
NSCI 610 Management in Science and Engineering (F)

Internship

An internship may be conducted 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 Project.

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 4 electives. Recommended courses include, but are not limited to, the following:

Geology Focus Area
ESCI 427 Seismic Sequence Stratigraphy (S)
ESCI 428 Interpretation of Reflection Seismograms (F)
ESCI 450 Remote Sensing (S)
ESCI 463 Advanced Structural Geology (F)
ESCI 467 Geomechanics (F)
ESCI 470 Quantitative Hydrogeology (S)
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 551 Seismology I (F)
ESCI 567 Geomechanics (F)
ESCI 562 Seismology II (F)

Additional Electives
CAAM 578 Introduction to Operations Research (F)
CEVE 322 Engineering Economics for Engineers (F)
COMP 429 Introduction to Computer Networks (S)
ECON 486 Energy Economics (S)
ESCI 454 Geographic Information Science (F)
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
Rice students have an option to achieve the MS in subsurface geoscience by adding an additional 5th year to the 4 undergraduate years of science studies. Advanced Rice students in good standing apply during their junior year, then start taking required core courses of the subsurface geoscience program during their senior year. A plan of study based on their particular focus area will need to be approved by the track director and the PSM coordinator.
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 AND DRAMATIC ARTS

THE SCHOOL OF HUMANITIES

Chair  
Brian Huberman

Professors  
Karin Broker  
George Smith  
John Sparagana  
Geoff Winningham

Associate Professors  
Brian Huberman  
Darra Keeton

Assistant Professor  
Christopher Sperandio

Artist Teacher  
Paul Hester

Lecturers on Theatre  
Christina Keefe  
Matthew Schlief

Visiting Lecturers  
Jim Huston  
Paige Willson

Lecturer on Film & Media Studies  
Charles Dove

Degrees Offered: BA  
Department of Visual and Dramatic Arts majors are students who concentrate their focus of study in the visual and dramatic arts, with emphasis in the studio arts, film, or theatre tracks. Each student should discuss with their 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 and Dramatic Arts  
(For general university requirements, see Graduation Requirements in the Rice University General Announcements.)

Bachelor of Arts in Visual and Dramatic Arts  
Single Major  
Studio Art Track  
(13 courses required)

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
ARTS 205 Photography I or ARTS 301 Painting I
ARTS 325 Life Drawing or ARTS 340 Color Drawing
ARTS 311 Intaglio I or ARTS 365 Sculpture I
ARTS 499 Senior Exhibition Project
6 elective courses in visual arts studio practice (ARTS), film (FILM), or theatre (THEA). May not include more than 3 film (FILM) or theatre (THEA).
2 elective courses in film history/theory (FILM), theatre (THEA), or art history (HART).

Film Track  
(12 courses required)

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
FILM 327 Documentary Production
FILM 328 Filmmaking I
FILM 280 History and Aesthetics of Film or FILM 329 Film Form, or FILM 432 Film Genre: The Western
6 elective courses in film (FILM), studio practice (ARTS), or theatre (THEA). May not include more than 3 studio arts practice (ARTS), or theatre (THEA).
Two elective courses in theory/criticism of

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a visual and dramatic arts faculty advisor.
studio arts (ARTS), theatre (THEA), or film/mediala studies (offered in the Departments of Anthropology, English, French Studies, History, etc.).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a visual and performing arts faculty advisor.

**Theatre Track**  
(13 courses required)

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
THEA 100 Theatre Technology or THEA 101 Costume/Clothing Construction
THEA 300 Introduction to Theatre Design or THEA 301 Acting I
THEA 303 Introduction to Theatre
THEA 331 Theatre Production

6 elective courses in theatre (THEA), studio arts practice (ARTS), or film (FILM). May not include more than 3 studio arts practice (ARTS) or film (FILM).

2 elective courses in visual arts studio practice (ARTS), film production, history, or theory/criticism (FILM), dramatic literature (ENGL), or art history (HART).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a visual and dramatic arts faculty advisor.

**Bachelor of Arts in Visual and Dramatic Arts**  
**Double Major**

**Studio Art Track**  
(11 courses required)

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
ARTS 205 Photography or ARTS 301 Painting I
ARTS 325 Life Drawing or ARTS 340 Color Drawing
ARTS 311 Intaglio I or ARTS 365 Sculpture I
ARTS 499 Senior Exhibition Project

4 elective courses in studio arts practice (ARTS), film production (FILM), or theatre (THEA). May not include more than 2 film (FILM) or theatre (THEA).

2 elective courses in film history/theory (FILM), theatre (THEA), or art history (HART).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a visual and dramatic arts faculty advisor.

**Film Track**  
(10 courses required)

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
FILM 327 Documentary Production
FILM 328 Filmmaking I
FILM 280 History and Aesthetics of Film or FILM 329 Film Form or FILM 432 Film Genre: The Western

4 elective courses in film (FILM), studio arts practice (ARTS), or theatre (THEA). May not include more than 2 studio practice (ARTS) or theatre (THEA).

2 elective courses in studio arts practice (ARTS), theatre (THEA), or film history/theory (offered in the Departments of Anthropology, English, French Studies, History, etc.).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a visual and performing arts faculty advisor.

**Theatre Track**  
(11 courses required)

ARTS 225 Basic Drawing (ARTS 101 accepted as equivalent)
THEA 100 Theatre Technology or THEA 101 Costume/Clothing Construction
THEA 300 Introduction to Theatre Design or THEA 301 Acting I
THEA 303 Introduction to Theatre
THEA 331 Theatre Production

4 elective courses in theatre (THEA), studio arts practice (ARTS), or film (FILM). May not include more than 2 studio arts practice (ARTS) or film (FILM).

2 elective courses in visual arts studio practice (ARTS), film production, history, or theory/criticism (FILM), dramatic literature (ENGL), or art history (HART).

NOTE: Open selections qualified by course prerequisites. Elective courses should be selected in consultation with a visual and performing arts faculty advisor.
All graduating senior studio track majors are required to participate in the senior art exhibition held each spring during commencement week. Prior to the senior exhibition, graduating senior majors, who are focusing in the studio arts track are required to take a 1-credit-hour senior exhibition class during their senior year: ARTS 499 Senior Exhibition Project.

**Transfer Credit**

No more than 2 courses may be transferred for the single or double major to satisfy degree requirements for BA in Visual and Dramatic Arts degree. The 2 transfer credit courses must be studio, film, or theatre practice courses required for all majors. Advanced placement credit may not be used by visual arts majors to fulfill department degree requirements. Entering transfer students who are transferring coursework from another accredited college or university will be allowed to transfer their undergraduate art courses. Students must speak with the department chairman immediately upon transferring to Rice.

The Department of Visual and Dramatic Arts will accept academic work completed in the Spring at NYU program and the National Theater Institute, Eugene O’Neill Theater Center program as transfer credit to fulfill major requirements (following university transfer credit guidelines).

See also Transfer Credit in the Information for Undergraduate Students section of the *General Announcements*.

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

The Department of Visual and Dramatic Arts mounts several art and photography exhibitions and stage productions each year. In addition exhibitions and related activities organized by the Rice Art Gallery enrich the teaching program of the Department of Visual and Dramatic Arts, as well as the larger university and Houston communities.

The department enjoys an ongoing close relationship with local theatres, museums, and galleries. The department offers opportunities for students to work and study with local art venues and alternative art spaces by way of collaborative events and programs. The collections and exhibitions of local museums often are the subject of course lectures. Lectures, symposia, and talks are sponsored by the department and are designed to bring local, national, and international scholars, actors, directors, critics, and studio artists to campus to speak on a broad range of topics and current interests.

**Rice Theatre program**

Rice Theatre Program curriculum offers a solid foundation in all aspects of theatrical production from acting and directing to technology and design for students who wish to pursue a professional career in theatre or continue on to a graduate program. Theatre courses are also open to nonmajors who want to gain a greater appreciation for the art of theatre.

There are 2 main-stage productions (one fall and one spring) and 2 student showcases offered each year in Hamman Hall—a 500-seat proscenium theatre facility. The department invites distinguished guest artists each year to direct and produce the 2 main-stage productions. Participation in productions is open to all students currently enrolled in theatre courses as well as students
who have taken theatre courses as non-majors. The end of semester showcases feature the work of students currently enrolled in theatre courses.

Theatre Program faculty are actively involved in professional theatre and film locally, nationally, and internationally and actively pursue opportunities to involve advanced students in that work. In addition, advanced students are encouraged to apply for internship positions whenever possible. Rice students have been accepted in competitive internships such as The Alley Theatre, Berkeley Repertory Theatre, Williamstown Theatre Festival, and The Peter Hall Company. In addition, students are encouraged to study theatre abroad and transfer course credit back to Rice. Approval for transfer credit must be sought prior to enrollment in a study-abroad program by contacting the director of the Theatre Program.

In even number years, the Theatre Program, sponsored by the Alan and Shirley Grob Endowment for Shakespeare in Performance, hosts the Actors From the London Stage—one of the oldest established touring Shakespeare theater companies in the world—for a week-long residency of workshops, performances, and lectures. Each tour presents a full-length play by Shakespeare performed by five classically trained actors who come from such prestigious companies as the Royal Shakespeare Company, the Royal National Theatre of Great Britain, and Shakespeare’s Globe Theatre.

**Film at Rice**

Our film program works in concert with the Department of Visual and Dramatic Arts’ academic mission to enrich our students’ undergraduate experience. Our film and media studies students are provided state-of-the-art screening facilities to examine and study the historical and methodological aspects of movies from around the world in 16, 35, or 70 millimeter with Dolby Digital Sound. Film production students can showcase their work during the academic year on our new silver screen in recently renovated projection facilities.

Each year we screen films from around the world—foreign features, shorts, documentaries, and animation—as part of our ongoing partnership with the diverse cultural communities of the City of Houston. Film at Rice reaches beyond the university’s hedges to create, engage, and encourage scholarly thought and dialog on the many issues that impact our world. Among the internationally known filmmakers who have appeared on our campus over the years are Werner Herzog, Rakhshan Banietemad, Atom Egoyan, Shirin Neshat, Martin Scorsese, Andy Warhol, George Lucas, and Dennis Hopper.

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

The Department of Visual and Dramatic Arts mounts several art and photography exhibitions and stage productions each year. In addition, exhibitions and related activities organized by the Rice University Art Gallery enrich the teaching program of the Department of Visual Arts as well as the larger university and Houston communities.

The department enjoys an ongoing close relationship with local theatres, museums, and galleries. The department offers opportunities for students to work and study with local art venues and alternative art spaces by way collaborative events and programs. The collections and exhibitions of local museums are often the subject of course lectures.

Lectures, symposia, and talks are sponsored by the department and are designed to bring local, national, and international scholars, actors, directors,
critics, and studio artists to campus to speak on a broad range of topics and current interests.

**Museum of Fine Arts, Houston Glassell School of Art Core Fellows**

The Department of Visual and Dramatic Arts, in partnership with the Museum of Fine Arts, Houston Glassell School of Art, supports up to six Glassell Core Fellowship recipients each year to teach studio practice and critical theory courses. These Core Fellowship recipients, selected by the MFAH from the highly competitive and prestigious Glassell School of Art Core Fellowship Residency Program, are post-graduate artists and art educators.

**Spring at NYU**

New York University’s Tisch School of Art and Steinhardt School of Education offers students the opportunity to study studio art, film, and theatre each spring semester in New York City. Through this program, students have the opportunity to immerse themselves in the study of art at NYU’s outstanding facilities with leading faculty artists. Students interested in participating in the Spring at NYU program should contact their VADA faculty advisor and the NYU Tisch School of Art and/or the Steinhardt School of Education directly. The Department of Visual and Dramatic Arts will accept academic work completed at NYU as transfer credit to fulfill major requirements (following university transfer credit guidelines).

**National Theater Institute**

The National Theater Institute is the educational arm of the renowned Eugene O’Neill Theater Center. The program is designed to complement a liberal arts education with three distinct study-away programs, all offering rigorous, risk-taking theater exploration. The semester-long program at the O’Neill Center in Connecticut, the NTI Moscow Art Theater semester, and the 7-week Theateermakers summer program confront the serious theater student with opportunities to discover new creative possibilities.

The National Theater Institute offers an extensive conservatory-based training program for the dedicated student. Distinguished master teaching artists guide the classes in courses in acting, directing, design, playwrighting, stage combat, voice, and movement. The Department of Visual and Dramatic Arts will accept academic work completed at the National Theater Institute as transfer credit to fulfill major requirements (following university transfer credit guidelines).

See ARTS, FILM, HART, and THEA in the Courses of Instruction section for course descriptions.
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**Community Involvement Center** ........................................... Mac Griswold

**Controller’s Office** ........................................................ Evely Stewart

**Counseling Center** ........................................................ Lindley Doran

**Delivery Services** .......................................................... Ute Franklin

**Disability Support Services** ............................................... Jean Ashmore

**Diversity** ................................................................. Roland B. Smith Jr.

**Emergency Medical Service (EMS)** ....................................... Cathy A. Sunday
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<th>Department</th>
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<tr>
<td>Enrollment: Administration</td>
<td>Diane Havlinek</td>
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<tr>
<td>Enterprise Applications</td>
<td>Andrea Martin</td>
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<tr>
<td>Environmental Health and Safety</td>
<td>Kathryn Cavender</td>
</tr>
<tr>
<td>Events Office</td>
<td>Amanda Lytz Hellman</td>
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<tr>
<td>Facilities and Engineering</td>
<td>Barbara White Bryman</td>
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<td>General Counsel</td>
<td>Richard A. Zansitis</td>
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<td>Housing and Dining</td>
<td>Mark Ditman</td>
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<td>Human Resources</td>
<td>Mary A. Cronin</td>
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<td>Institutional Effectiveness</td>
<td>John M. Cornwell</td>
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<td>Institutional Research</td>
<td>Leona Urbish</td>
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<td>International Programs (Study/Work Abroad)</td>
<td>Shannon Cates</td>
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<td>International Students and Scholars</td>
<td>Adria Baker</td>
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<td>Intramural and Club Sports</td>
<td>Tina Villard</td>
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<td>K–12 Initiatives</td>
<td>Will Robedee</td>
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<td>KTRU/General Manager</td>
<td>Claire Bartlett</td>
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<td>Language Resource Center</td>
<td>B. J. Almond</td>
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<td>Media Relations and Information</td>
<td>Catherine E. Clack</td>
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<tr>
<td>Multicultural Affairs</td>
<td>William Deigaard</td>
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<tr>
<td>Networking, Telecommunications, and Data Center</td>
<td>Colleen F. Morimoto</td>
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<tr>
<td>Payroll Office</td>
<td>Darlene Banning</td>
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<td>Police Department (RUPD)</td>
<td>Bill Taylor</td>
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<tr>
<td>President’s Office</td>
<td>Cynthia L. Wilson</td>
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<td>Provost’s Office</td>
<td>Colleen F. Morimoto</td>
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<td>Public Affairs</td>
<td>B. J. Almond</td>
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<td>Registrar’s Office</td>
<td>David Tenney</td>
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<tr>
<td>Research and Graduate Studies</td>
<td>Kellie Sims Butler</td>
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<tr>
<td>Research Computing</td>
<td>Kim Andrews</td>
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<tr>
<td>Scholarships and Fellowships</td>
<td>Kellie Sims Butler</td>
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<tr>
<td>Sponsored Research</td>
<td>Nancy Nisbett</td>
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<td>Student Activities</td>
<td>Heather Masden</td>
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<td>Student Affairs</td>
<td>Matt Taylor</td>
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<td>Boyd Beckwith</td>
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<td>Student Financial Services</td>
<td>Anne Walker</td>
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<td>Student Health Services</td>
<td>Mark Jenkins, MD</td>
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<tr>
<td>Student Judicial Programs</td>
<td>Donald Ostdick</td>
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<tr>
<td>Systems, Architecture, and Infrastructure</td>
<td>Barry Ribbeck</td>
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<tr>
<td>Telecommunications</td>
<td>Reggie Clarkson</td>
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<td>Transportation Office</td>
<td>Eugen Radulescu</td>
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<tr>
<td>University Relations</td>
<td>Greg Marshall</td>
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<tr>
<td>Web Services</td>
<td>Jeff Frey</td>
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<tr>
<td>Wellness Center</td>
<td>Emily Page</td>
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**College Masters**

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<tr>
<th>College</th>
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<tr>
<td>Baker College</td>
<td>José Aranda and Krista Comer</td>
</tr>
<tr>
<td>Brown College</td>
<td>Steve and Laura Cox</td>
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<td>Hanszen College</td>
<td>Wesley and Barbara Morris</td>
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<td>Jones College</td>
<td>Rudy and Nancy guerra</td>
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<td>Lovett College</td>
<td>Bernard and Carolyn Aresu</td>
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<td>Martel College</td>
<td>Gerald Dickens and Michelle McCormick</td>
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<tr>
<td>Sid Richardson College</td>
<td>Melissa Marschall and Michael Orchard</td>
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<tr>
<td>Wiess College</td>
<td>Michael Gustin and Denise Klein</td>
</tr>
<tr>
<td>Will Rice College</td>
<td>Mike Wolf and Paula Krisko</td>
</tr>
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</table>
Emeritus Faculty

Akers, William Walter, 1947–93. Professor Emeritus in Chemical and Biomolecular Engineering
BS (1945) Texas Technological College; MS (1944) University of Texas at Austin; PhD (1950) University of Michigan

Acover, 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

Armeniades, Constantine D., 1969–2006. Professor Emeritus of Chemical and Biomolecular Engineering
BS (1961) Northeastern University; MS (1967) Case Institute of Technology; PhD (1969) Case Western Reserve University

Avé Lallemant, Hans G., 1970–2006. Professor Emeritus of Earth Science and Associate of Sid Richardson College
BA (1960), MA (1964), PhD (1967) University of Leiden

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

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

BA (1957), BSEE (1958), Rice Institute; MS (1960) Rice University; PhD (1965) Stanford University

Burt, George, 1984–97. Professor Emeritus of Theory and Composition

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

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) Johns Hopkins University

BS (1964) University of Southwestern Louisiana; PhD (1967) Rice University

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

BA (1954) Rice Institute; PhD (1957) University of California at Berkeley

Daichman, Graciela S., 1973–99. Lecturer Emerita of Hispanic Studies

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 and Biomolecular 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

BS (1955) Queen’s University, Canada; PhD (1961) California Institute of Technology

BSCE (1968) Engineering University, Pakistan; MS (1975) Asian Institute of Technology, Thailand; PhD (1982) University of Michigan; MBA (1999) University of Houston

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

Ecklund, Karl M., 2008. Assistant Professor of Physics and Astronomy

BA (1962), MA (1964), PhD (1969) University of California at Berkeley

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

Farwell, Joyce, 1994–2005. Professor Emerita of Voice
BME (1956), MME (1958) University of Oklahoma; DMA (1976) College Conservatory of Music, University of Cincinnati

BS (1962) Southwestern University; MBS (1965) University of Colorado; PhD (1969) Rice University

BA (1953) Hanover College; MS (1958), PhD (1961) Purdue University

Freeman, John W., 1964–2000. Professor Emeritus of Space Physics and Astronomy, Research Professor, and Associate of Lovett College
BS (1957) Beloit College; MS (1961), PhD (1963) University of Iowa

AB (1959) Spellman College; MA (1968) University of Iowa; PhD (1990) Emory University

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

BS (1959) Birmingham University, England; PhD (1963) Cambridge University
BA (1963) Brooklyn College; MS (1964), PhD (1966) Syracuse University

BA (1939), MA (1942) Montclair State College; MS (1946), PhD (1953) Cornell University

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 (1967) Michigan State University; PhD (1973) Yale University

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

BA (1956) Rice Institute; MA (1959) Indiana University

Haymes, Robert C., 1968–98. Professor Emeritus of Space Physics and Astronomy
BA (1952), MS (1953), PhD (1959) New York University

BS (1950), MS (1957) University of Texas at Austin; PhD (1961) University of Michigan

Heymann, Dieter, 1966–98. Professor Emeritus of Geology and Geophysics and Adjunct Professor in Chemistry
MS (1954), PhD (1957) University of Amsterdam, The Netherlands

Hightower, Joe W., 1967–2001. Professor Emeritus of Chemical and Biomolecular Engineering
BS (1959) Harding University; MS (1961), PhD (1963) Johns 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

AB (1955) Harvard University; MA (1957) University of Michigan; PhD (1961) Stanford 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


BA (1956), PhD (1959) Rice Institute

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 and Biomolecular Engineering
BS (1944) Rice Institute; MSE (1947), PhD (1951) University of Michigan

BS (1963), Providence College; PhD (1968) University of Wisconsin

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 (1965) 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

Marcus, George E., 1975–2006. Emeritus Professor of Anthropology
BA (1968) Yale University; PhD (1976) Harvard University


BA (1963) University of Cincinnati; MA (1965) University of Washington; MA (1968) University of Cincinnati

McIntosh, Roderick J., 1980. Professor Emeritus of Anthropology
BA (1973) Yale University; MLITT (1975), PhD (1979) Trinity College, University of Cambridge

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), BSME (1953), MSME (1955) Rice Institute; PhD (1962) University of Cambridge

BA (1955), PhD (1962) California Institute of Technology

Miele, Angelo, 1964–93. Foyt Family Professor Emeritus in Mechanical Engineering and Materials Science and Computational and Applied Mathematics and Research Professor
Dr. CE (1944), Dr. AE (1946) University of Rome

BA, BS (1961) Rice University; PhD (1969) University of Minnesota

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; BD (1946), PhD (1951) Yale University

BS (1957), MS (1958) University of Michigan; PhD (1962) University of California at Berkeley

O’Dell, Charles Robert, 1982–2000. Andrew Hays Buchanan Professor Emeritus of Astrophysics
BSEd (1959) Illinois State University; PhD (1962) University of Wisconsin at Madison

BS (1957), PhD (1962) University of Sheffield

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; BD (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
BEng (1962), MS (1964) Stevens Institute of Technology; MA (1967) University of Michigan; PhD (1970) University of London

BS (1948) Robert College, Turkey; MS (1950), PhD (1955) University of Illinois

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 (1933), 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

BS (1965), MEE (1966), PhD (1972) Cornell University

Winkler, Michael, 1967–2000. Professor Emeritus of German
BA (1961) St. Benedict’s College; MA (1963), 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

Faculty

Aazhang, Behnaam, 1985. J.S. Abercrombie Professor in Electrical and Computer Engineering

Abreu, Vitor dos Santos, 2000. Adjunct Associate Professor of Earth Science

Achard, Michel, 1997. Associate Professor of Linguistics and French Studies

Adamson, David, 2008. Adjunct Assistant Professor in Civil and Environmental Engineering

Adnan, Sarmad, 2001. Adjunct Associate Professor in Mechanical Engineering and Materials Science

Ajayan, Pulickel M., 2007. Benjamin M. and Mary Greenwood Anderson Professor in Mechanical Engineering and Materials Science and of Chemistry
B Tech (1985) Banaras Hindu University, India; PhD (1989) Northwestern University

Akin, John Edward, 1983. Professor of Mechanical Engineering and Computational and Applied Mathematics
BS (1964) Tennessee Polytechnic Institute; MS (1966) Tennessee Technological University; PhD (1968) Virginia Polytechnic Institute

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, Scotland

Alford, John R., 1985. Associate Professor of Political Science
BS (1975), MPA (1977) University of Houston; MA (1980), PhD (1981) University of Iowa
Alvarez, Pedro J. J., 2003. George R. Brown Professor; Department Chair of Civil and Environmental Engineering

Al-Zand, Karim, 2002. Lynette S. Autrey Assistant Professor of Composition and Theory

Amos, Christopher I., 2001. Adjunct Professor of Statistics
BA (1980) Reed College; MS (1985), PhD (1988) Louisiana State University Medical Center

Anandasabapathy, Sharmila, 2007. Adjunct Assistant Professor in Bioengineering
BA (1995) Yale University; MD (1998) Albert Einstein College of Medicine

Anderson, Edward, 2006. Lecturer in Classical Studies

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

Annapragada, Ananth, 2005. Adjunct Professor in Chemical and Biomolecular Engineering
BTech (1985) A.C. College of Technology; PhD (1989) University of Michigan

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

Aranda Jr, José F., 1994. Associate Professor of English, Chair of the Department of Hispanic Studies

Arbizu-Sabater, Victoria, 2006. Lecturer of Spanish

Aresu, Bernard, 1977. Professor of French Studies and Master of Lovett College
Licence es lettres (1967) Université de Montpellier, France; PhD (1975) University of Washington

Armstrong, James D., 2002. Adjunct Assistant Professor of Biochemistry and Cell Biology
BSc (1992), PhD (1996) University of Glasgow, Scotland

Arnold, Laura, 2008. Adjunct Faculty in Management

Aschwanden, Markus, 2007. Adjunct Professor in Physics and Astronomy
MS (1982) University of Zurich; PhD (1987) ETH Zurich

Ashmore, Jean, 2002. Lecturer on Education Certification
BA (1973) University of California at Los Angeles; MS (1976) California State University

Athanasious, Kyriacos A., 1999. Karl F. Hasselmann Professor of Bioengineering

Atherholt, Robert, 1984. Professor of Oboe
BMus (1976), MMus (1977) Juilliard School of Music

BA (1971) Rice University; MBA (1977), PhD (1983) University of Texas at Austin

Atkinson, E. Neely, 1985. Adjunct Professor of Statistics

Atlee, Carl W., 2008. Lecturer in Spanish

Awad, Mahber M., 2005. Senior Lecturer of Arabic
BA (1988) California State University; MA (1990) University of Colorado

Azevedo, Ricardo, 2005. Adjunct Assistant Professor in Ecology and Evolutionary Biology
BS (1992) University of Lisbon, Portugal; PhD (1997) University of Edinburg, UK

Bader, Graham, 2008. Assistant Professor of Art History

Badgwell, Thomas A., 2000. Adjunct Associate Professor in Chemical and Biomolecular Engineering
BS (1982) Rice University; MS (1990), PhD (1992) University of Texas at Austin

Baggerly, Keith A., 2004. Adjunct Associate Professor of Statistics
BA (1990), MA (1993), PhD (1994) Rice University
Baggett, L. Scott, 1999. Lecturer on Statistics

Bailey, Nancy Gisbrecht, 1997. Lecturer on Vocal Literature
BA (1975) University of the Redlands; MA (1981), PhD (1985) University of Southern California

Bailey, Walter B., 1982. Associate Professor of Musicology and Chair of Musicology
BMus (1976) Lewis and Clark College; MA (1979), PhD (1982) University of Southern California

BA (1990), JD (1993) University of Houston; MBA (1997) Rice University

Balabanlilar, Lisa A., 2007. Assistant Professor of History

Ball, Zachary T., 2006. Assistant Professor of Chemistry

Bankson, James A., 2005. Adjunct Assistant Professor in Bioengineering
BS (1994), PhD (2001) Texas A&M University

Banon, H. Hugh, 2007. Adjunct Associate Professor in Mechanical Engineering and Materials Science
BS (1976) University of Illinois at Urbana; MS (1978), PhD (1980) Massachusetts Institute of Technology

Baraniuk, Richard G., 1992. Victor E. Cameron Professor in Electrical and Computer Engineering and Associate of Hanszen College

Baring, Matthew G., 2000. Associate Professor of Physics and Astronomy

Barlow, Tani E., 2008. Professor of History and Director of the T.T. and Wei Fong Chao Center for Asian Studies
BA (1975) San Francisco State University; MA (1979), PhD (1985) University of California at Davis

Barrett, Deborah, 1998. Professor in the Practice of Professional Communication
BA (1972), MA (1977) University of Houston; PhD (1983) Rice University

Baron, 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

Bartel, Bonnie, 1995. Ralph and Dorothy Looney Professor of Biochemistry and Cell Biology
BA (1983) Bethel College; PhD (1990) Massachusetts Institute of Technology

Batell, Michael J., 2004. Assistant Professor of Psychology
BA (1994) Florida State University; MS (1996), PhD (2000) Tulane University

Beal, Daniel J., 2001. Lecturer in Biochemistry and Cell Biology
BS (1990) Auburn University; PhD (1996) University of Alabama

Beauhamp, Michael S., 2005. Adjunct Assistant Professor in Bioengineering and Psychology
AB (1992), Harvard University; MS (1994), PhD (1997) University of California at San Diego

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
BS (1969), MS (1972), PhD (1975) University of Florida

Bednar, 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, 2007. Adjunct Associate 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 at Austin
Behr, Marek, 1999. Adjunct Professor in Chemical and Biomolecular Engineering
BS (1988), PhD (1992) University of Minnesota

Beier, Margaret E., 2004. Assistant Professor of Psychology

Bejan, Camelia, 2005. Assistant Professor of Economics


Bennett, George N., 1978. E. Dell Butcher Professor and Chair of Biochemistry and Cell Biology
BS (1968) University of Nebraska; PhD (1974) Purdue University

Berry, Donald A., 2000. Adjunct Professor of Statistics
AB (1965) Dartmouth College; MA (1967), PhD (1971) Yale University

Bezár, Anikó, 2008. Adjunct Assistant Professor of Chemistry
BA (1990), MS (1994) Brandeis University; PhD (2003) University of Arizona

Bhatavadekar, Neel, 2008. Adjunct Assistant Professor in Bioengineering

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

Bissada, K. K., 1996. Adjunct Professor of Earth Science
BSc (1962) University of Assiut, Egypt; MS (1965), PhD (1967) Washington University

Biswal, Sibani Lisa, 2006. Assistant Professor of Chemical and Biomolecular Engineering

Bixby, Robert, 2008. Research Professor of Management
BS (1968) University of California at Berkeley; MS (1971), PhD (1972) Cornell University

Black, Earl, 1993. Herbert S. Autrey Professor of Political Science
BA (1964) University of Texas at Austin; PhD (1968) Harvard University

Blackburn, James B., 1981. Professor in the Practice of Environmental Law
BA (1969), JD (1972) University of Texas at Austin; MS (1974) Rice University

Blazek, Kirk D., 2006. Pfeiffer-VIGRE Instructor of Computational and Applied Mathematics

Bloom, Marc L., 2000. Adjunct Professor in the Practice of Management

Bordeaux, Janice, 1994. Associate Dean of Engineering and Adjunct Assistant Professor of Psychology
Borick, Aladin M., 1997. Adjunct Associate Professor in Bioengineering and Mechanical Engineering and Materials Science

Borle, Sharad, 2003. Assistant Professor of Management

Bornmann, William G., 2006. Adjunct Professor in Bioengineering
BS (1975) University of Wisconsin; MS (1977) Montana State University; PhD (1988) University of Vermont

Bosshertznitzan, Michael, 1982. Professor of Mathematics

Bottero, Jean-Yves, 1996. Adjunct Professor in Civil and Environmental Engineering
Docteur d’Etat es Sciences Physiques (1979) Université de Nancy, France

Boylan, Richard Thomas, 2005. Associate Professor of Economics

Braam, Janet, 1990. Professor and Chair 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

Brantl, Anthony K., 1998. Associate Professor of Composition and Theory

Branton, Regina, 2000. Assistant Professor of Political Science

Brattey, Jennifer L., 2006. Assistant Professor of Sociology

Brennan, Marcia, 2001. Associate Professor of Art History

Brennan, Richard G., 2007. Adjunct Professor of Biochemistry and Cell Biology
BA (1977) Boston University; PhD (1984) University of Wisconsin—Madison

Brinkley, Douglas G., 2007. Professor of History and Fellow in the James A. Baker III Institute for Public Policy

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

Brogdon-Gómez, N. Patricia, 2000. Senior 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., 1991. Lecturer in English; Editor, SEL Studies in English Literature, 1500–1900
BA (1977) University of the South; MA (1980) Oxford University; PhD (1999) University of North Carolina—Chapel Hill

Bryant, John B., 1981. Henry S. Fox Sr, Professor of Economics and Professor of Management

Buchman, Rachel, 2005. Lecturer in Music
BA (1978) Vassar College
Bufetov, Alexander I., 2006. Edgar Odell Lovett Assistant Professor of Mathematics

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

Burgar, Charles G., 2008. Adjunct Associate Professor of Mechanical Engineering and Materials Science
BS (1974) University of Texas at Austin; MD (1984) University of Texas Health Science Center

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

Buyse, Leone, 1997. Joseph and Ida Kirkland Mullen Professor of Flute and Chair of Woodwinds

Byrd, Alexander X., 2001. Associate Professor of History and Associate of Baker College

Byrne, John H., 1994. Adjunct Professor of Psychology and Electrical and Computer Engineering
BS (1968), MA (1970), PhD (1973) Polytechnic Institute, Brooklyn

Byrne, Michael, 1999. Associate Professor of Psychology

Calderwood, Peter C., 1994. Professor of History

Camp, Stephanie M. H., 2008. Associate Professor of History

Campana, Jr., Joseph A., 2006. Assistant Professor of English Literature

Campbell, Lesley, 2007. Huxley Research Instructor of Ecology and Evolutionary Biology

Cannady, William Tillman, 1964. Professor of Architecture
BArch (1961) University of California at Berkeley; MArch (1962) Harvard University

Cantor, Scott, 2006. Adjunct Professor of Statistics

Caprette, David R., 1992. Lecturer in Biochemistry and Cell Biology
BS (1974) Case Western Reserve University; MS (1979), PhD (1982) Cleveland State University

Carroll, Beverlee Jill, 1995. Adjunct Associate Professor of Religious Studies

BA (1958), MA (1959) University College Galway; PhD (1964) Brown University

Carroll, Royce A., 2007. Assistant Professor of Political Science

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

Casbarian, John Joseph, 1973. Associate Dean of the School of Architecture and Professor of Architecture
BA (1969) Rice University; MFA (1971) California Institute of the Arts; BArch (1972) Rice University

Castañeda, James Agustín, 1961. Professor of Spanish, Faculty Athletics Representative, and Honorary Master of Will Rice College

Castor-Brooks, Geraldine, 2008. Lecturer in Management
BA (1991) Rice University; MBA (1992) Rice University


Cavallaro, Joseph R., 1988. Professor in Electrical and Computer Engineering and Computer Science

Cecchini, Fabiana, 2006. Lecturer of Italian

Chan, Anthony A., 1993. Professor of Physics and Astronomy
Chance, Jane, 1973. Andrew W. Mellon Distinguished Chair and Professor in 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-Diaz, Franklin R., 1998. Adjunct Professor of Physics and Astronomy  
BS (1973) University of Connecticut; PhD (1977) Massachusetts Institute of Technology

Chapman, Walter G., 1990. Professor and William W. Akers Professor in Chemical and Biomolecular Engineering  

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, 1998. Adjunct Professor of Physics and Astronomy  
BS (1992) National Taiwan University; MS (1997), PhD (2000) University of Illinois at Urbana–Champaign

Chen, Xiaohong Denise, 2002. Assistant Professor of Psychology  

Cherukuri, Paul, 2008. Adjunct Assistant Professor of Chemistry  
BS (1997) University of Kentucky; MM (2001) University of Wisconsin Madison

BS (1993) Colorado College; PhD (2006) University of Texas Austin

Chiu, Wah, 2004. Adjunct Professor of Computer Science  
BA (1969), PhD (1975) University of California at Berkeley

Ciufolini, Marco A., 2000. Associate Professor in Physics  
BS (1981) University of California at Berkeley; PhD (1985) University of California at Berkeley

Clark Jr, John W., 1968. Professor in Electrical and Computer Engineering  
BS (1962) University of Illinois at Urbana–Champaign; MS (1965), PhD (1967) Case Western Reserve University

Clarke, Joseph N., 2007. Assistant Professor of English  

Clementi, Cecilia, 2001. Wiess Career Development Chair and Associate Professor of Chemistry and Chemical and Biomolecular Engineering  

Cochran, Tim D., 1990. Professor of Mathematics  
BS (1977) Massachusetts Institute of Technology; MA (1979), PhD (1982) University of California at Berkeley

Cohan, Daniel, 2006. Assistant Professor in Civil and Environmental Engineering  

Cohen, G. Daniel, 2003. Assistant Professor of History and Associate of Lovett College  

Cole, Blaine J., 2005. Adjunct Professor of Ecology and Evolutionary Biology  
BS (1975) University of Kansas; MA (1977), PhD (1979) Princeton University

Coleman, James S., 2007. Vice Provost for Research and Professor of Ecology and Evolutionary Biology  

Colvin, Vicki L., 1996. Professor of Chemistry and in Chemical and Biomolecular Engineering  
BS (1988) Stanford University; PhD (1994) University of California at Berkeley

Comer, Krista, 1998. Associate Professor of English  

Connell, Shannon E., 2006. Lecturer of Management  
BA (1992) University of Cincinnati

Connelly, Brian, 1984. Artist Teacher of Piano and Piano Chamber Music and Accompanying  
BMus (1980), MMus (1983) University of Michigan

Cook, David, 2001. Associate Professor of Religious Studies  

Cooper, Jennifer, 2006. Lecturer of Humanities  
BA (1990) Rice University
Cooper, Keith D., 1990. Professor of Computer Science and in Electrical and Computer Engineering
BS (1978), MA (1982), PhD (1983) Rice University

Cooper, Tim, 2008. Adjunct Assistant Professor of Ecology and Evolutionary Biology
PhD (2000) University of Canterbury, New Zealand

Copeland, Benjamin W., 2007. Visiting Associate Professor of Naval Science and Executive Officer
MS (1997) University of South Carolina

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

Cornwell, John M., 2007. Associate Vice President for Institutional Effectiveness and Adjunct Professor in Psychology
BA (1977) Capital University; MS (1982) Georgia Institute of Technology; PhD (1987) University of Tennessee

Costello, Leo, 1991. Assistant Professor of Art History

Covington, Michael E., 2008. Assistant Professor of Biochemistry and Cell Biology

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. Professor in the Practice of Chemical and Biomolecular Engineering
BS (1974) Ohio State University; MS (1977), PhD (1979) University of Illinois

Cox, Steven J., 1988. Professor of Computational and Applied Mathematics and Master of Sid Richardson College

Crawford, Steven, 2007. Assistant Professor of Management

Creek, Jefferson L., 2007. Adjunct Professor in Chemical and Biomolecular Engineering
BS (1967) Middle Tennessee State University; MS (1969), PhD (1975) Southern Illinois University at Carbondale

Crist, E. Scott, 2000. Lecturer of Management

Crocken, Ronnie, 2005. Lecturer in Humanities
BA (1985) Texas A&M University; MBA (1993) College of William and Mary

Cornin, Justin C., 2003. Professor of English

Crosswhite, Katherine, 2004. Assistant Professor of Linguistics

Crowell, Steven G., 1983. Joseph and Joanna Nazro Mullen Professor of Philosophy

Crull, Brigitte, 1999. Senior Lecturer of French
Licence d’enseignement (1970) University of Caen, France; MA (1991) University of Houston

Cruz, Miguel, 2007. Adjunct Assistant Professor in Bioengineering
BS (1983) University of Puerto Rico; PhD (1989) University of Puerto Rico–School of Medicine

Cummins-Muñoz, Elizabeth, 2007. Lecturer in Spanish

Curley, Steven A., 2007. Adjunct Professor in Mechanical Engineering and Materials Science
BS (1978) University of New Mexico; MD (1982) University of Texas Medical School at Houston

Cutbertson, Gilbert Morris, 1963. Professor of Political Science
BA (1959) University of Kansas; PhD (1963) Harvard University

Cutler, Scott E., 2001. Professor in the Practice of Computer Technology
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 Associate Professor in Mechanical Engineering and Materials Science  

Damanik, David, 2006. Associate Professor of Mathematics  

Danbom, Stephen, 2001. Adjunct Professor of Earth Science and Lecturer  
BS (1966), MS (1969) Texas Tech University; PhD (1975) University of Connecticut


Dane, Erik, 2007. Assistant Professor of Management  
BA (2001), MBA (2002) Tulane University; PhD (2007) University of Illinois at Urbana-Champaign

Dannemiller, James L., 2003. Lynette S. Autrey Professor of Psychology and Director of the Neurosciences Program  
BA (1974) Northwestern University; PhD (1983) University of Texas at Austin

Dasgupta, Rajdeep, 2008. Assistant Professor of Earth Science  
BSc (1998), MSc (2000) Jadavpur University, India; PhD (2006) University of Minnesota

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)

Davidson, Jack D., 2007. Visiting Assistant Professor in Philosophy  

BS (1999), MS (2000) Texas A&M University; PhD (2005) Rice University

deBlanc, Phillip C., 2007. Lecturer in Civil and Environmental Engineering  
BS (1984) Louisiana State University; MS (1994), PhD (1998) University of Texas at Austin

DeChambrier, Janet, 1997. Artist Teacher of Opera Studies  
BM (1975), MM (1980) Northwestern University School of Music

DeConick, April D., 2006. Isla Carroll and Percy Turner Professor of Religious Studies  

Deem, Michael W., 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

DeNicola, T. Kevin, 2008. Adjunct Professor in Management  
BS (1976) High Point University; MS (1979) University of Virginia; MBA (1987) Rice University

DeRoussepian, Joan, 2001. Artist Teacher of Viola  
BM (1991), MM (1994) Eastman School of Music

Derrick, Scott S., 1990. Associate Professor of English  
BA (1975) Albright College; MA (1978) University of Chicago; PhD (1987) University of Pennsylvania

Dharan, Bala G., 1982. J. Howard Creekmore Professor of Management  

Dholakia, Utpal, 2001. Jones School Distinguished Associate Professor of Management  

Diamond, John, 2006. Adjunct Assistant Professor in Economics  

Diaz-Saiz, Joaquín, 2000. Adjunct Associate Professor of Statistics  
BS (1966) Instituto Tecnológico y de Estudios Superiores de Monterrey; MS (1968) Centro Interamericano de Enseñanza de Estadística; PhD (1985) Oklahoma State University

Dick, Andrew J., 2007. Assistant Professor in Mechanical Engineering and Materials Science  
BS (2003), MS (2003) Rochester Institute of Technology; PhD (expected spring, 2007) University of Maryland, College Park

Dick, Christopher H., 2005. Adjunct Professor in Electrical and Computer Engineering  
BSc (1984), PhD (1996) La Trobe University, Melbourne, Australia

Dickens, Gerald R., 2001. Professor of Earth Science and Master of Martel 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
Dickinson, Mary, 2006. Adjunct Assistant Professor in Bioengineering

Diddel, Roberta M., 1985. Instructor of Psychology
BA (1976) Wesleyan University; PhD (1989) Boston University

Diehl, Michael, 2005. Assistant Professor in Bioengineering and in Chemistry

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 Hermena 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 Professor of Statistics
BS (1983) Queensland University; MS (1985), 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

Doerr, Harold K., 2004. Adjunct Assistant Professor of Psychology
BA (1979) Rutgers University; MD (1987) University of Texas Health Science Center

Domainey, Wallace J., 2008. Faculty Fellow in Ecology and Evolutionary Biology
BA (1975) University of Texas; PhD (1981) Cornell University

Dong, Jing-Fei, 2007. Adjunct Associate Professor in Bioengineering
MD (1984) Lanzhou Medical School; MS (1989) Tianjin Neurology Institute, Tianjin Medical College; PhD (1993) University of Birmingham

Dongarra, Jack, 1988. Adjunct Professor of 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

Dove, Charles, 2001. Lecturer of Film

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. Associate 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
BA (1961), MA (1968), PhD (1970) Rice University

Droxler, André W., 1987. Professor of Earth Science
MS (1978) University of Neuchatel; PhD (1984) University of Miami

Druschel, Peter, 1994. Research Professor in Computer Science
Dipl-Ing (1986) Fachhochschule Munich, Germany; MS (1990), PhD (1994) University of Arizona

D'Souza, Rena N., 2004. Adjunct Professor in Bioengineering
BDS (1977) University of Bombay, India; MS (1985), PhD (1987) University of Texas Health Science Center at Houston

Du, Rui-Rui, 2004. Professor of Physics and Astronomy
BS (1982) Fudan University; PhD (1990) University of Illinois

Duarte, Jefferson, 2008. Visiting Associate Professor in Management

Dubrowski, Daniel, 2008. Adjunct Professor in Management

Dudey, Marc Peter, 1990. Associate Professor of Economics

Dueñas-Osorio, Leonardo, 2006. Assistant Professor in Civil and Environmental Engineering

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, Amy E., 2007. Faculty Fellow in Ecology and Evolutionary Biology

Dunham, James E., 2001. Professor of Viola and Chamber Music
BFA (1972), MFA (1974) California Institute of the Arts

Duno-Gottberg, Luis, 2008. Associate Professor of Spanish

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

Dupré, Brian, 2007. Wiess Instructor of Chemistry
BA (1977), PhD (1985) The University of Texas at Austin

Duston, Karen, 2005. Adjunct Professor in Civil and Environmental Engineering

Dutta, Indranil, 2007. Lecturer of Hindi and Linguistics

Eagleton, David M., 2004. Adjunct Assistant Professor of Psychology
BA (1993) Rice University; PhD (1998) Baylor College of Medicine

Ecklund, Elaine Howard, 2008. Assistant Professor of Sociology

Ecklund, Karl M., 2008. Assistant Professor of Physics and Astronomy

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, Farès, 1996. Associate Professor of Architecture


Elhai, Tarek, 2008. Assistant Professor of Anthropology

Ellenweig, 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. Associate Professor of Computational and Applied Mathematics

Emden, Christian, 2003. Associate Professor of German

Emerson, Michael O., 1999. Allyn and Gladys Cline Professor of Sociology

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

Englebreton, Robert, 2000. Assistant Professor of Linguistics

Ensor, Katherine Bennet, 1987. Professor of Statistics

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

Fabian, Marian, 1998. Senior Faculty Fellow in Biochemistry and Cell Biology
Fagan, Melinda B., 2007. Assistant Professor in Philosophy

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 Biochemistry and Cell Biology
BS (1978) Missouri Western State College; PhD (1982) University of Oklahoma Health Sciences Center

Fernandez, Ariel, (2005) Karl F. Hasselmann Professor of Bioengineering

Ferrari, Mauro, 2006. Adjunct Professor in Bioengineering

Ferrill, June O., 1998. Lecturer of Managerial Studies and Instructor in the Cain Project
BA (1964) University of Texas; MED (1971) University of Houston; PhD (1977) University of Michigan

Ferris, David, 1998. Associate Professor of Musicology

Fette, Julie, 2005. Assistant Professor in French Studies

Finger, Jerry E., 1996. Adjunct Professor in the Practice of Management
BS (1954) University of Pennsylvania

Finley, Dawn, 2001. Assistant Professor of Architecture
BS (1993) University of Michigan; March (1999) Rice University

Fischer, Jeannie K., 1992. Artist Teacher of Piano and Collaborative Skills

Fischer, Norman, 1992. Professor of Cello
B Mus (1971) Oberlin College

Fisher, Ronald E., 2003. Adjunct Assistant Professor in Psychology
BA (1982) Brandeis University; PhD (1990), MD (1991) Baylor College of Medicine

Fitzgerald, Timothy J., 2008. Lecturer of History

Flannery, Rachel Winer, 2004. Adjunct Lecturer of Psychology

Flatt, Robert N., 1987. Adjunct Professor in the Practice of Management

Fleisher, Jeffrey B., 2007. Assistant Professor of Anthropology
BA (1992), MA (1997), PhD (2003) University of Virginia

Fleming, Jefferson D., 1993. Professor of Finance, Associate Dean of Academic Affairs

Fletcher, Katherine, 2007. Adjunct Lecturer on Electrical and Computer Engineering
BS, BA (1987), MS (1993) Rice University

Fofanov, Yuriy, 2008. Adjunct Associate Professor of Ecology and Evolutionary Biology
MS (1977), PhD (1988) Kuibyshev (Samara) State University, USSR

Foote, Jill, 2003. Lecturer of Management

Forman, Robin, 1987. Dean of Undergraduates and Professor of Mathematics

Fossati, Giovanni, 2001. Assistant Professor of Physics and Astronomy
MS (1994) Universita degli Studi Milano; PhD (1998) International School for Advanced Studies, Italy

Fowler, Robert, 2006. Adjunct Associate Professor of Computer Science

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

Frankino, Tony, 2008. Adjunct Assistant Professor in Ecology and Evolutionary Biology
BS (1990), MS (1993) Illinois State University; PhD (2000) Indiana University
Fraser, Charles D., 2005. Adjunct Professor in Bioengineering
BA (1980) University of Texas at Austin; MD (1984) University of Texas Medical Branch at Galveston

Freeman, Wendy, 2008. Director of the Center for the Study of Languages

French, Christopher, 1999. Artist Teacher of Cello Orchestral Repertoire

Fukuyama, Tohru, 1995. Adjunct Professor in Chemistry
BS (1971), MS (1973) Nagoya University; PhD (1977) Harvard 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

Garrou, Blair, 2008. Adjunct Professor in Management
BS (1994) Washington and Lee University

Gaug, Christa, 1998. Senior Lecturer of German
Mag phil (1985) University of Vienna, Austria; MA (1994), PhD (2000) University of Texas at Austin

Gaytán, Raquel, 1996. Senior Lecturer of Spanish

George, Jennifer M., 1999. Mary Gibbs Jones Professor of Management and Professor of Psychology

Georges, Eugenia, 1986. Associate Professor of Anthropology

Geurts, Franciscus Johannes Maria, 2008. Assistant Professor of Physics and Astronomy

Gilchrist, Scott R., 2006. Adjunct Professor of Chemistry
BS (1979) University of Wisconsin at LaCrosse; MS (1982) University of Michigan; PhD (1988) University of Chicago

Gilheart, Timothy J., 2008. Wiess Instructor of Physics and Astronomy

Gill, Jack, 2008. Lecturer in Management
BS (1958) Lamar University; PhD (1962) Indiana University

Gillenwater, Ann M., 2006. Adjunct Associate Professor in Bioengineering
BA (1983) Brown University; MD (1987) University of Virginia at Charlottesville

Gillis, Malcolm, 1993. University Professor, Ervin Kenneth Zingler Professor of Economics, and Professor of Management
BA (1962), MA (1963) University of Florida; PhD (1968) University of Illinois

Glass, Nancy, 2006. Lecturer of Management
MD, Baylor College of Medicine; MBA, Rice University

Glassberg, Jeffrey, 2007. Adjunct Professor of Ecology and Evolutionary Biology
BS (1969) Tufts University; PhD (1976) Rice University; JD (1993) Columbia University School of Law

Glick, William H., 2005. Dean of the Jesse H. Jones Graduate School of Management, H. J. Nelson III Chair, and Professor of Management
AB (1975) University of Michigan; PhD (1981) University of California at Berkeley

Glowinski, Roland, 1986. Adjunct Professor of Computational and Applied Mathematics
Ecole Polytechnique (1958); Ecole Nationale Superieure des Telecommunications; PhD (1970) University of Paris

Goetz, Rebecca A., 2006. Assistant Professor of History

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
BM (1966) George Peabody College for Teachers; MA (1968) Leland Stanford University

Golubitsky, Martin, 2005. Adjunct Professor of Computational and Applied Mathematics

Gomer, Richard H., 1988. Professor of Biochemistry and Cell Biology
BA (1977) Pomona College; PhD (1983) California Institute of Technology

Gonnermann, Helge, 2009. Assistant Professor of Earth Science

Gonsalves, Joshua David, 2005. Assistant Professor in English

Gonzalez, Ramon, 2005. William W. Akers Assistant Professor in Chemical and Biomolecular Engineering
BS (1993) Central University of Las Villas, Cuba; MS (1999) Catholic University of Valparaíso, Chile; PhD (2001) University of Chile

González-Stephan, Beatriz, 2001. Lee Hage Jamail Chair of Latin American Literature

Gordon, David, 2009. Lynette S. Autrey Visiting Associate Professor in the Humanities Research Center

Gordon, Emily Fox, 2003. Lecturer in English
BA (1978), MA (1988) University of Vermont

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

Gordon, Ross M., 2007. Lecturer on Civil and Environmental Engineering
BS (2006), MS (2007) Rice University

Gorlova, Olga Y., 2004. Adjunct Assistant Professor of Statistics
MSc (1992) Novosibirsk University; PhD (2000) Novosibirsk University

Gorman, Bridget K., 2002. Associate Professor of Sociology and 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

Goux, Jean-Joseph, 1990. Laurence H. Favrion Professor of French

Graf, Hans, 2002. Artist in Residence

Grande-Allen, Kathryn Jane, 2003. Associate Professor in Bioengineering
BA (1991) Transylvania University; PhD (1998) University of Washington

Grandy, Richard E., 1980. Carolyn and Fred McManis Professor of Philosophy
BA (1965) University of Pittsburgh; MA (1965), PhD (1968) Princeton University

Grant, Simon, 2002. Lay Family Chair in Economics

Graur, Dan, 2005. Adjunct Professor of Ecology and Evolutionary Biology
BSc (1978), MSc (1980) Tel Aviv University; PhD (1985) University of Texas

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

Griffin, Robert J., 2008. Associate Professor of Civil and Environmental Engineering

Gross, Shawn, 2008. Adjunct Professor in Management

Gruber, Ira Dempsey, 1966. Harris Masterson Jr, Professor of History
Grullon, Gustavo, 1998. Associate Professor of Management  

Guerra, Rudy, 2001. Professor of Statistics  

Guerrero, Thomas M., 2005. Adjunct Assistant Professor of Computational and Applied Mathematics  

Gunther, Karl G., 2007. Lecturer in History  

Gustin, Michael C., 1988. Professor of Biochemistry and Cell Biology  
AB (1974) Johns Hopkins University; PhD (1981) Yale University

Hackett, James T., 2006. Adjunct Professor of Management  
BS, University of Illinois; MBA, Harvard University

Hafner, Jason H., 2001. Associate Professor of Physics and Astronomy and of Chemistry  

Hamadeh, Shirine T., 2003. Assistant Professor of Art History  

Haptonstall, Clark D., 2003. Professor of the Practice of Kinesiology and Director of the Sport Management Program  

Hampton, Lawrence P., 1999. Lecturer in the Practice of Management  
AB (1979) University of Chicago; JD (1985) Case Western Reserve University

Hamidieh, Kam, 2008. Pfeiffer/VIGRE Instructor in Statistics  
BS (1995) University of Texas; PhD (2008) University of Michigan

Ham, Jung Won, 2005. Lecturer of Korean  
BA (1968), Taejun Presbyterian College, Korea; MA (1997) University of Houston

Hannan, John K., 1990. Adjunct Professor of Management.  
BA (1975) Rice University; JD (1988) South Texas College of Law

Hannon, James P., 1967. Professor of Physics and Astronomy  
BA (1962), MA (1965), PhD (1967) Rice University

Haptonstall, Clark D., 2003. Professor of the Practice of Kinesiology and Director of the Sport Management Program  

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 at Austin

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), DSc (1993) Edinburgh 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. Associate Professor of Chemistry and of Bioengineering  
Hartigan, Patrick M., 1994. 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

Harvey, Shelly L., 2005. Assistant Professor of Mathematics
BS (1997) California Polytechnic State University; PhD (2002) Rice University

Haskell, Thomas L., 1970. Samuel G. McCann Professor of History
BA (1961) Princeton University; PhD (1973) Stanford University

Hassett, Brendan E., 2000. 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. Associate Professor of History, Director of the Medieval Studies Program, 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

Heinkenschloss, Matthias, 1996. Professor of Computational and Applied Mathematics
BS (1988), PhD (1991) Universität Trier, Germany

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

Hennessy, Margaret H., 2004. Wiess Instructor of Chemistry

Hennessy, Rosemary, 2006. Professor of English Literature and Director of the Center for the Study of Women, Gender, and Sexuality
BA (1972) University of Pennsylvania; MA (1976) Temple University, PhD (1990) Syracuse University

Henning, Alison, 2004. Lecturer in Earth Science
BS (1994), MA (1997) University of Texas at Austin; PhD (2005) Rice University

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

Hernandez, Ismael, 2008. Adjunct Professor in Management

BA (1971) Rice University; MFA (1976) Rhode Island School of Design

Hewitt, Janice, 1999. Senior Lecturer in Professional Communications in the School of Engineering
BA, University of Michigan; MA (1986) PhD (1997) Rice University

Heydorn, Richard P., 1998. Adjunct Professor of Statistics
BEE (1958), MA (1964) University of Akron; PhD (1971) Ohio State University

Heymann, Dieter, 1966. Adjunct Professor of Chemistry
MS (1954), PhD (1958) University of Amsterdam, The Netherlands

Hicks, Illya V., 2007. Associate Professor of Computational and Applied Mathematics

Hight, Christopher, 2003. Assistant Professor of Architecture

Hill, Thomas W., 1979. Professor of Physics and Astronomy
BA (1967), MS (1971), PhD (1973) Rice University

Hilser, Vincent J., 2005. Adjunct Professor in Biochemistry and Cell Biology
Hirasaki, George J., 1989. A. J. Hartsook Professor in Chemical and Biomolecular Engineering
BS (1963) Lamar University; PhD (1967) Rice University

Hirsch, Karen, 2001. Adjunct Assistant Professor of Bioengineering
BS (1984) Pennsylvania State University; PhD (1990) University of Arizona

Hirsch, Kendall, 2003. Adjunct Professor of Biochemistry and Cell Biology

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

Hoebig, Desmond, 2008. Visiting Professor of Cello
BM (1982), MM (1983) The Juilliard School of Music

Hokanson, David A., 2000. Adjunct Assistant Professor in Chemical and Biomolecular Engineering
BS (1977), MChE (1978) 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

Hopkins-Raun, Loren, 2005. Lecturer on Statistics
BS (1986) University of Texas at Austin; MS (1989), PhD (1998) Rice University

Houchens, Brent C., 2005. Assistant Professor in Mechanical Engineering and Materials Science
BS (2000), MS (2002), PhD (2005) University of Illinois at Urbana-Champaign

House, Waylon V., 1986. Adjunct Associate Professor of Chemical and Biomolecular 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

Huang, Shih-Shan, Susan, 2006. Assistant Professor of Art History
BA (1991) National Taiwan University; MA (1995) National University of Taiwan; PhD (2002) Yale University

Huberman, Brian Michael, 1975. Associate Professor of Visual Arts and Chair of Visual and Dramatic Arts
MFA Equivalent (1974) National Film School of Great Britain

Hudspeth, C. M., 1947. Lecturer on Political Science
BA (1940) Rice Institute; JD (1946) University of Texas at Austin

Hughes, Gordon, 2008. Assistant Professor of Art History

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

Hussain, Fazle, 2004. Adjunct Professor in Bioengineering
BScEng (1963) BUET, Bangladesh; MS (1966), PhD (1969) Stanford University

Huston, J. Dennis, 1969. Professor of English
BA (1961) Wesleyan University; MA (1964), PhD (1966) Yale University

Huston, James E., 2005. Lecturer of Visual and Dramatic Arts/Theatre
BA Principia College; MFA (2002) University of Houston

Hutchinson, John S., 1983. Professor of Chemistry
BS (1977), PhD (1981) University of Texas at Austin

Iammarino, Nicholas K., 1978. Professor and Chair of Kinesiology
BS (1973) University of Dayton; MEd (1975) University of Toledo; PhD (1978) Ohio State University

Igoshin, Oleg A., 2006. Assistant Professor in Bioengineering

Jaber, Thomas I., 1988. Professor of Music and Director of Choral Ensembles
Jalbert, Pierre D., 1996. Associate Professor of Composition and Theory

Jeaneret, Paul Richard “Dick,” 2003. Adjunct Professor of Psychology
BA (1962) University of Virginia; MA (1963) University of Florida; PhD (1969) Purdue University

Jimenez, Carlos, 1997. Professor of Architecture
March (1981) University of Houston

Johns-Krull, Christopher M., 2001. Associate 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. Professor of Computer Science and in Electrical and Computer Engineering
BA (1982), MS(1985), PhD (1990) Rice University

Johnsson, S. Lennart, 1995. Adjunct Professor of Computer Science

Jones Jr, B. Frank, 1962. Noah Harding Professor of Mathematics
BA (1958) Rice Institute; PhD (1961) Rice University

Jones, George P., 2007. Instructor in the Wiess School of Natural Sciences
BA (1971) Hartwick College; MS (1973, 1974) Ohio State University

Jones, Mark P., 2004. 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

Juntti, Markku, 2007. Adjunct Professor in Electrical and Computer Engineering
MS (1993), PhD (1997) University of Oulu, Finland

Kale, Prashant, 2007. Associate Professor of Management

Kalra, Ajay, 2008. Professor of Management

Kamins, Benjamin C., 1987. Professor of Bassoon

Kaminski, Vincent, 2001. Professor in the Practice of Executive Education
PhD (1975) Main School of Planning and Statistics, Warsaw, Poland; 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

Kapadia, Nishad, 2007. Assistant Professor of Management

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
BM (1966) Indiana University; MM (1970) University of Texas at Austin

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

Keefe, Christina, 2008. Director of the Theatre Program, Lecturer in Visual and Dramatic Arts
BFA (1979) New York University; MFA (1994) University of South Carolina

Keeton, Darra, 1994. Associate Professor of Visual Arts
BFA (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

Keller-McNulty, Sallie, 2005. Dean of the George R. Brown School of Engineering, William and Stephanie Sick Dean of Engineering, and Professor of Statistics
BS (1977), MS (1979) University of South Florida; PhD (1983) Iowa State University of Science and Technology

Kelly, Kevin, 2002. Associate Professor in Electrical and Computer Engineering

Kemmer, Suzanne E., 1993. Associate Professor of Linguistics and Cognitive Sciences and Associate of Sid Richardson College

Kenny, Gale L., 2007. Lecturer in History

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

Kilburn, M., 2000. Associate Professor of Physics and Astronomy

Kimbro, Rachel Tolbert, 2007. Assistant Professor of Sociology

Kimmey, Kim, 2008. Lecturer in Communications
BBA (1978) Baylor University; MS (1996) Texas A&M University

King, Stephen, 2003. Professor of Voice and Chair of Voice

Kinsey, Berma, 2002. Lecturer in the Weiss School of Natural Sciences
BA (1957) Duke University; PhD (1962) University of California at Berkeley

Kirk, David E., 1982. Associate Professor of Tuba
BM (1982) Juilliard School of Music

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

Kluger, Luisa, 2007. Lecturer in Spanish
BA (1972) Hebrew University; MA (1984) Rice University; PhD (2006) University of Houston

Knightly, Edward W., 1996. Professor in Electrical and Computer Engineering and Computer Science
BS (1991) Auburn University; MS (1992), PhD (1996) University of California at Berkeley

Kohn, Michael H., 2004. Assistant Professor of Ecology and Evolutionary Biology
MSc (1994) University of Munich; PhD (2000) University of California at Los Angeles

Koka, Balaji, 2008. Associate Professor of Management

Kolers, Avery, 2009. National Endowment of the Humanities Visiting Associate Professor in the Humanities Research Center

Kolomeisky, Anatoly B., 2000. Associate Professor of Chemistry and Chemical and Biomolecular Engineering

Kono, Junichiro, 2000. Associate Professor in Electrical and Computer Engineering
BS (1990), MS (1992) University of Tokyo; PhD (1995) State University of New York at Buffalo

Kortum, Philip T., 2005. Professor-in-the-Practice and Faculty Fellow in Psychology
BS (1985) University of Nebraska; MS (1990) Northeastern University; PhD (1994) University of Texas at Austin

Kosterev, Anatoly A., 2002. Senior Faculty Fellow in Electrical and Computer Engineering
MSC (1989) Moscow Institute for Physics and Technology; PhD (1995) Russian Academy of Science
Koushanfar, Farinaz, 2006. Assistant Professor in Electrical and Computer Engineering


Krupa, Beata, 2008. Lecturer of Communications

Kulinowski, Kristen, 2002. Faculty Fellow in Chemistry, CBEN Executive Director for External Affairs, and Director of the International Council on Nanotechnology
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

Kuspa, Adam, 2006, Adjunct Professor in Ecology and Evolutionary Biology

Lairson, David R., 1977. Adjunct Professor of Economics
BA (1970), MA (1971), PhD (1975) University of Kentucky

Lally, Sean, 2002. Assistant Professor of 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

Lane, Mary Ellen, 2000. Assistant Professor of Biochemistry and Cell Biology

Lavenda, Richard A., 1987. Professor of Composition and Theory
BA (1977) Dartmouth College; MMus (1979) Rice University; DMA (1983) University of Michigan

Lee, Cin-Ty., 2002. Associate Professor of Earth Science

Levi, Jennifer, 2005. Assistant Professor of Architecture

Lee, Jack, 2004. Adjunct Professor of Statistics
DDS (1982) National Taiwan University; MS (1984), PhD (1989) University of California at Los Angeles

Lee, William, 2008. Professor in the Practice of Management
BSEE (1963) Vanderbilt University; MBA (1967) Rollins College; PhD (1972) University of North Carolina

Leebron, David W., 2004. President and Professor of Political Science
BA (1976) Harvard University; JD (1979) Harvard Law School

Leeds, Brett Ashley, 2001. Albert Thomas Associate Professor of Political Science
BA (1991), University of North Carolina at Chappel Hill; PhD (1998) Emory University

LeGrand, Thomas, 2003. Associate Professor of Clarinet
BMus (1980) Curtis Institute of Music

Lenardic, Adrian, 1999. Professor of Earth Science
BA (1986) University of Wisconsin; MS (1990), PhD (1995) University of California at Los Angeles

Lerup, Lars, 1993. Dean of the School of Architecture and William Ward Watkin Professor of Architecture
BArch (1968) University of California at Berkeley; MArch (1970) Harvard University

BS (1975) Northern Arizona University; MBA (2000) Rice University

Levander, Alan R., 1984. Chair and Carey Croneis Professor of Earth Science
BS (1976) University of South Carolina; MS (1978), PhD (1984) Stanford University
Levander, Caroline F., 2000. Professor of English and Director of the Humanities Research Center  

Levin, Harvey S., 2004. Adjunct Professor of Psychology  
BA (1967) City University of New York; MA (1971), PhD (1972) University of Iowa

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. Professor in the Practice of Humanities; Research Fellow at the James A. Baker III Institute for Public Policy; Associate Director, Chao Center for Asian Studies  

Li, Chun, 2006. Adjunct Associate Professor in Bioengineering  
BS (1983) Peking University, Beijing, China; PhD (1991) Rutgers, The State University of New Jersey

Li, Haiyang, 2005. Associate Professor of Management  
BA (1991), MA (1994) University of China; PhD (1998) City University of Hong Kong

Li, Hui, 2002. Adjunct Associate Professor of Physics and Astronomy  
BS (1990) Beijing University; PhD (1995) Rice University

Li, King Chuen Peter, 2007. Adjunct Professor of Bioengineering  
BS (1977), MD (1981) University of Toronto; MBA (1998) San Jose State University

Li, Qilin, 2006. Assistant Professor of Sociology  
BS (1995) Tsinghua University, Beijing, China; MS (1997) National Central University, Taiwan; PhD (1997) Brown University

Li, Wen-Hsiung, 2006. Adjunct Professor of Ecology and Environmental Biology  
BE (1965) Chung-Yuang College of Science and Engineering, Taiwan; MS (1968) National Central University, Taiwan; PhD (1972) Brown University

Liang, Edison P., 1991. Andrew Hays Buchanan Professor of Astrophysics  
BA (1967), PhD (1971) University of California at Berkeley

Liddleberg, Jorma, 2002. Adjunct Professor in Electrical and Computer Engineering  
BS (1984) University of Oulu; PhD (1992) Tampere University of Technology

Lin, Cho-Liang, 2006. Professor of Violin  
BMus (1981) The Juilliard School of Music

Lin, Martin, 2008. Adjunct Faculty in Management  
BS (1993) California Institute of Technology; MSE (1994) University of Texas

Linbeck, Leo, III, 2002. Adjunct Professor in the Practice of Management  

Lindsay, D. Michael, 2006. Assistant Professor of Sociology  

Link, Stephan, 2006. Assistant Professor of Chemistry  
MA (1996) Technical University of Braunschweig, Germany; PhD (2000) Georgia Institute of Technology

Llope, William J., 1994. Senior Faculty Fellow in Physics and Astronomy  

Loehnig, Grant, 2008. Artist Teacher of Opera Studies  

Loewen, Peter V., 2006. Assistant Professor of Musicology  
BMus (1987) University of Manitoba; MMus (1990), PhD (2000) University of Southern California

Logan, Jessica, 2006. Assistant Professor of Psychology  

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  
BA (1966) Stanford University; MA (1974), PhD (1979) Brandeis University

Loos, Peter John, 1998. Lecturer and Visiting Scientist in Mechanical Engineering and Materials Science  
BA (1977), MS (1982), PhD (1986) Rice University

Lopez-Berestein, Gabriel, 2006. Adjunct Professor in Bioengineering  
Premedical (1970) Universidad de Puerto Rico; Graduate Work (1975), MD (1976) Universidad de Navarra, Spain

Lord, Tom E., 1992. Lecturer in Architecture  
BA (1960) Southern Methodist University; MA (1965) Yale University

Lou, Jun, 2005. Assistant Professor in Mechanical Engineering and Materials Science  
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
Ludwig, Joseph A., IV, 2007. Adjunct Assistant Professor in Bioengineering
BBA (1994) University of Iowa College of Business; MD (1998) University of Iowa College of Medicine
Lurie, Susan, 1987. Associate Professor of English
BA (1969) State University of New York; MA (1972), PhD (1989) University of California at Berkeley
Lüttge, Andreas, 1999. Professor of Earth Science, Associate Professor of Chemistry, and Associate of Will Rice College
Lwigale, Peter Y., 2008. Assistant Professor of Biochemistry and Cell Biology
BS (1994), MS (1997) University of Northern Iowa; PhD (2001) Kansas State University
Ma, Jianpeng, 2000. Associate Professor in Bioengineering
BS (1985) Fudan University P.R. China; PhD (1996) Boston University
Maas, Michael R., 1984. Professor of History and Classical Studies
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
Mackwell, Stephen J., 2005. Adjunct Professor of Earth Science
BS (1978), MS (1979) University of Canterbury, Christchurch, NZ; PhD (1985) Australian National University
Maher, Lynn M., 2007. Adjunct Professor of Psychology
Makdisi, Ussama S., 1997. Arab American Educational Foundation Professor of History
Manca, Joseph, 1989. Nina J. Cullinan Chair in Art History, Professor of Art History, and Associate of Baker College
Mandel, James P., 1986. Lecturer on Management and Economics
BS (1967), MBA (1969), PhD (1973) University of Illinois
Mardis, Jerlyn, 2008. Professor in the Practice of Management
BA (1973); MBA (1982) Rice University
Marschall, Melissa J., 2003. Associate Professor of Political Science.
BA (1990) Florida State University; MA (1993) Bogazici University; PhD (1998) State University of New York at Stony Brook
Martí, Angel A., 2008. Assistant Professor of Chemistry and Norman Hackerman-Welch Young Investigator
Martí, Gerardo, 2008. Lynette S. Autrey Visiting Assistant Professor in the Humanities Research Center
BA (1987) Pepperdine University; MA (1990), PhD (2002) University of Southern California
Martin, Lanny W., 2004. Associate 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
Martinez, Dario E., 2008. Wiess Instructor of Physics and Astronomy
BS (1996) Universidad de los Andes; PhD (2003) University of Texas at Austin
Massimino, Michael J., 2004. Adjunct Associate Professor in Mechanical Engineering and Materials Science
Massoud, Yehia, 2003. Associate Professor in Electrical and Computer Engineering
BS (1991), MS (1994) Cairo University; PhD (1999) Massachusetts Institute of Technology
Mathur, Anshu, 2005. Adjunct Assistant Professor in Bioengineering
Matsuda, Seiichi P. T., 1995. E. Dell Butcher Chair in Chemistry and Professor of Biochemistry and Cell Biology

Matthews, Kathleen Shive, 1972. Stewart Memorial Professor of Biochemistry and Cell Biology
BS (1966) University of Texas at Austin; PhD (1970) University of California at Berkeley

Matusow, Allen J., 1963. William Gaines Twyman Professor of History and Associate Director of the 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 and Biomolecular Engineering
Diploma of Chemical Engineering (1987) National Technical University; PhD (1992) Rice University

Mawlawi, Osama R., 2002. Lecturer on Electrical and Computer Engineering

Mayherry, J. Benton, 2005. Adjunct Professor in the Practice of Management
BA (1973), MA (1976) Rice University

McCullough, Laurence, 2001. Adjunct Professor of Philosophy
AB (1969) Williams College; PhD (1975) University of Texas at Austin

McDaniel, W. Caleb, 2008. Assistant Professor of History

McDevitt, John T., 2008. Adjunct Professor in Bioengineering

McGill, Scott, 2001. Associate Professor of Classics
BA (1990) Salve Regina College; PhD (2001) Yale University

McGovern, Patrick J., 2005. Adjunct Assistant Professor of Earth Science
SB (1986), PhD (1996) Massachusetts Institute of Technology

McGuire, Amy, 2006. Visiting Assistant Professor in Humanities

McHale, Mary E.R., 1997. Laboratory Coordinator, Lecturer in Chemistry

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

McKinnie, Kelly L., 2006. Instructor of Mathematics
BS (1999) University of Missouri at Columbia; PhD (2006) University of Texas at Austin

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. Associate 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. Professor in the Practice of 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 and Civil and Environmental Engineering
BS (1982) Rice University; MS (1984), PhD (1989) University of California at Berkeley

Medlock, Kenneth, 2003. Lecturer of Economics

Mellor-Crummey, John M., 1989. Professor in Computer Science and Electrical and Computer Engineering

Memarzadeh, Maher, 2008. Lecturer in History

Mentzer, Susanne, 2006. Professor of Voice
BMus (1979), MMus (1980) The Juilliard School of Music

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

Michenaud, Sebastien, 2008. Assistant Professor of Management  
MSc (1997) HEC School of Management, France; MSc (2003) Delta-EHESS, France; PhD (2008) HEC School of Management, France

Michie, Helena, 1990. Agnes Cullen Arnold Professor in Humanities, Professor of English, and Chair 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 (1963) Johns Hopkins University

Miettinen, Hannu E., 1977. Professor of Physics and Astronomy  

Mikos, Antonios G., 1991. John W. Cox Professor in Bioengineering and Chemical and Biomolecular Engineering  
Diploma (1983) Aristotle University of Thessaloniki, Greece; MS (1985), PhD (1988) Purdue University

Mikulis, Marise, 2006. Adjunct Professor of Management  
BS, Tufts University

Miller, Thomas E. X., 2009. Huxley Research Instructor of Ecology and Evolutionary Biology  
BA (2002) Colgate University; PhD (2007) University of Nebraska

Mittal, Vikas, 2007. Adjunct Professor of Management  
BS, Tufts University

Mittelman, Daniel, 1995. Professor in Electrical and Computer Engineering  
BS (1988) Massachusetts Institute of Technology; MS (1990), PhD (1994) University of California at Berkeley

Mody, Cyrus C. M., 2007. Assistant Professor of History  

Mohanram, Kartik, 2003. Assistant Professor in Electrical and Computer Engineering  

Montague, P. Read, 1993. Adjunct Professor of Computer Science  
BS (1983) Auburn University; PhD (1988) University of Alabama at Birmingham

Moore, Pat, 1996. Adjunct Professor in Civil and Environmental Engineering  
BA (1952), BS (1953) Rice University

Moretti, Paolo, 2007. Adjunct Assistant Professor of Biochemistry and Cell Biology  
MD (1990) University of Padua School of Medicine, Italy

Morgan, Julia K., 1999. Associate Professor of Earth Science and Associate of Hanszen College  

Morgan, Michael C., 2005. Adjunct Professor in the Practice of Management  

Morgan, T. Clifton, 1987. Albert Thomas Professor of Political Science  
BA (1978) University of Oklahoma; MA (1980), PhD (1986) University of Texas at Austin

Morosan, Emilia, 2007. Associate Professor of Physics and Astronomy  
BS (1999) A. I. Cass University; PhD (2005) Iowa State University

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  

Mortensen, Karoline L., 2006. Assistant Professor in the Practice of Political Science  

Morton, Scott A., 2004. Adjunct Associate Professor of Computational and Applied Mathematics  

Motowidlo, Stephan J., 2005. Herbert S. Autrey Professor of Psychology and Chair of Department of Psychology  
BA (1969) Yale University; PhD (1976) University of Minnesota

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 of Statistics  
MS (1985) University of Vienna; PhD (1991) Purdue University
Muratore, John F., 2006. Adjunct Lecturer on Mechanical Engineering and Materials Science
BS (1979) Yale University; MS (1988) University of Houston, Clear Lake

Murdoch, Steve H., 2007. Allyn and Gladys Cline Professor of Sociology
BA (1970) North Dakota State University; MA (1975), PhD (1975) University of Kentucky

Murphree, Dennis E., 1992. Lecturer on Management
BA (1969) Southern Methodist University; MBA (1971) University of Pennsylvania

Murray, David A., 2006. Commanding Officer and Professor of Naval Science
MA (1994) Naval War College

Mutchler, Gordon S., 1968. Professor of Physics and Astronomy
BS (1960), PhD (1966) Massachusetts Institute of Technology

Nagarajaiah, Satish, 1999. 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

Nakhleh, Luay K., 2004. Assistant Professor of Computer Science

Nance, Virginia, 2005. Lecturer in Music
BMus (1967) North Texas State University, MMus (2000) Texas A&M University at Commerce

Napier, H. Albert, 1983. Professor of Management and Psychology
BA (1966), MBA (1968), PhD (1971) University of Texas at Austin

Narajabad, Borghan N., 2007. Assistant Professor of Economics
BS (2001) Sharif University of Technology, Tehran, Iran; MS (2003), PhD (2007) University of Texas at Austin

Narbona, Jose A., 1999. Senior Lecturer of Spanish
BA (1995) University of Seville, Spain; MA (1999) Rice University

Natelson, Douglas, 2000. Associate Professor of Physics and Astronomy and in Electrical and Computer Engineering

Neagley, Linda E., 1993. Associate Professor of Art History

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

Newell, Charles J., 1993. Adjunct Professor in Civil and Environmental Engineering

Newman, James H., 1985. Adjunct Associate Professor of Physics and Astronomy

Ng, T. S. Eugene, 2003. Assistant Professor of Computer Science and Electrical and Computer Engineering

Nguyen, Dung “Zung”, 1999. Lecturer on Computer Science
BS (1976) Texas Tech University; MA (1979), PhD (1981) University of California at Berkeley

Niedzielski, Nancy A., 1999. Associate 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

Nettoto, Amy, 2005. Assistant Professor of Anthropology

Niu, Fenglin, 2002. Associate Professor of Earth Science
BS (1988) University of Science and Technology of China; MS (1994), PhD (1997) University of Tokyo

Noll, Christian A., 2008. Adjunct Assistant Professor of Earth Science

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 in Biochemistry and Cell Biology
BS (1968) Duke University; PhD (1972) Purdue University
Nowak, Robert, 1999. Adjunct Professor in Electrical and Computer Engineering
BS (1990), MS (1992), PhD (1995) University of Wisconsin–Madison

Oberlack, Uwe, 2001. William V. Vietti Assistant Professor of Space Physics
Diploma (1993), PhD (1997) Technical University of Munich

O’Callaghan, Casey, 2008. Assistant Professor of Philosophy

Oden, Z. Maria, 2004. Lecturer on Bioengineering and Laboratory Coordinator

Odhiamo, Atieno E. S., 1989. Professor of History
BA (1970) Makerere University College; PhD (1973) University of Nairobi

Oghalai, John, 2005. Adjunct Assistant Professor in Bioengineering
BS (1990), MD (1994) University of Wisconsin

Olggaard, David L., 2007. Adjunct Associate Professor
BS (1978) Cornell University; PhD (1985) Massachusetts Institute of Technology

Oliver, Douglas E., 1997. Professor in the Practice of Architecture

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 K., 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

Orlandi, Nicoletta, 2007. Assistant Professor of Philosophy

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. Associate Professor of English

O’Sullivan, Elizabeth, 2001. Lecturer of Management

Oswald, Frederick L., 2008. Associate Professor of Psychology
BA (1992) University of Texas at Austin; MA (1997), PhD (1999) University of Minnesota

Oubre, Carroll, 1999. Adjunct Professor of Civil & Environmental Engineering
BS (1955) University of Southwestern Louisiana; MS (1956) Ohio State University; PhD (1966) Rice University

Ouellette, Sylvia, 2005. Lecturer in Music
BMus (1988) Cleveland Institute of Music

Oukaderova, Lida, 2008. Visiting Assistant Professor of Art History
BA (1997) Martin-Luther University; MA (1999), PhD (2005) University of Texas at Austin

Overall, John E., 1983. Adjunct Professor of Psychology
BS (1954) Trinity University; MA (1956), PhD (1958) University of Texas at Austin

Padgett, Jamie Ellen, 2007. Assistant Professor in Civil and Environmental Engineering

Padley, B. Paul, 1996. Associate 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

Palem, Krishna, 2007. Ken and Audrey Kennedy Professor of Computer Science and Electrical and Computer Engineering
MS (1981), PhD (1986) University of Texas

Papadopoulos, Phaedon P., 2001. Lecturer of Management
BS (1970), MS (1972) Aristotle University; MS (1974), PhD (1979) University of Oklahoma

Park, Sohyoung, 2005. Artist Teacher of Piano and Piano Pedagogy
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
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Pasquali, Matteo, 1999. Professor in Chemical and Biomolecular Engineering and in Chemistry
MS (1992) University of Bologna; PhD (1999) University of Minnesota

Pati, Debananda, 2007. Adjunct Assistant Professor of Biochemistry and Cell Biology
BSc (1986) Orissa University; MS (1988) University of Buckingham; PhD (1995) University of Calgary

Patten, Robert L., 1969. Lynette S. Autrey Professor in Humanities; Publisher and Executive Editor, SEL Studies in English Literature 1500–1900
BA (1960) Swarthmore College; MA (1962), PhD (1965) Princeton University

Patterson, Peggy, 2003. Lecturer of Spanish
BS (1974) University of Texas at Austin; MA (1986) University of Hawaii; MA (1989), PhD (2001) University of Texas at Austin

Pavelescu, Elena Bogdan, 2008. G.C. Evans Instructor of Mathematics

Paye, Bradley S., 2004. Assistant Professor of Management

Pazgal, Amit, 2006. Associate Professor of Management
BS (1987), MS (1992) Tel Aviv University; PhD (1997) Northwestern University

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Pellis, Neil R., 1997. Adjunct Professor in the Mabee Laboratory

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ScB (1984) Brown University; PhD (1990) University of California at Santa Barbara

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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


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BA (1974), PhD (1976) Rice University

Pierce, Mark C., 2005. Faculty Fellow in Bioengineering
BSc (1997), PhD (2000) University of Manchester, UK

Pilling, Darrell, 2006. Faculty Fellow in Biochemistry and Cell Biology
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Pinn, Anthony B., 2004. Agnes Cullen Arnold Professor of Humanities and Professor of Religious Studies

Pitts, Timothy, 1992. Associate Professor of Double Bass

Platt, Robert, 2007. Adjunct Assistant Professor in Mechanical Engineering and Materials Science

Poland, Sydney W., 2005. Lecturer on Electrical and Computer Engineering
BS (1955) Louisiana Tech; MS (1962) TCU; MAS (1972) SMU
Pomerantz, James R., 1988. Professor of Psychology
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Pope, Albert H., 1986. Gus Sessions Wortham Professor of Architecture

Price III, Richard A., 2005. Assistant Professor of Management

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Pu, Han, 2003. Assistant Professor of Physics and Astronomy
BS (1992) University of Science and Technology of China; MS (1994), PhD (1999) University of Rochester

Putnam, Nicholas H., 2008. Assistant Professor of Ecology and Evolutionary Biology

Qian, Nanxiu, 1993. Associate Professor of Chinese Literature
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Queller, David C., 1989. Harry C. and Olga K. Wiess 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 and Classical Studies

Quillen, Carol E., 1989. Associate Professor of History and Director of the Boniuk Center for the Study and Advancement of Religious Tolerance, and Vice Provost For Academic Affairs

Quirocho, Florante A., 1972. Adjunct Professor of Biochemistry and Cell Biology
BS (1959) Central Philippine University; MS (1961) Howard University; PhD (1966) Yale University

Radigan, Judy, 2002. Lecturer on Education Certification
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Ragsdale, Lyn, 2006. Dean of the School of Social Sciences and Radoslav A. Tsanoff Chair of Public Affairs and Professor of Political Science

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Rarick, Janet, 1992. Artist Teacher of Woodwinds and Professional Development
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Rau, Carl, 1983. Professor of Physics and Astronomy
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Riese, W. C. Rusty, 1985. Adjunct Associate Professor of Earth Science and Lecturer
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Rimberg, Alexander J., 1997. Adjunct Associate Professor of Physics and Astronomy
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Rivière, Béatrice M., 2008. Associate Professor of Computational and Applied Mathematics
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Robert, Marc A., 1984. Professor in Chemical and Biomolecular Engineering

Roberts Jabus B., Jr., 1975. Professor of Physics and Astronomy
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Rogge, Corina E., 2007. Wiess Instructor of Chemistry

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Rountree, Brian R., 2003. Assistant Professor of Management

Roux, Robert, 1990. Professor of Piano and Chair of Keyboard
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Rudd, Stephanie, 2008. Adjunct Professor in Management
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Rudgers, Jennifer, 2005. James H. and Deborah T. Godwin Assistant Professor of Ecology and Evolutionary Biology
BS (1996) Denison University; PhD (2002) University of California at Davis

Rudolf, Volker H. W., 2007. Assistant Professor in Ecology and Evolutionary Biology

Rumbaut, Rolando E., 2001. Adjunct Assistant Professor of Bioengineering
MD (1988) Instituto Tecnologico y de Estudios Superiores de Monterrey, Mexico; PhD (1998) University of Missouri

Rusk, Jerrold G., 2006. Professor of Political Science
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Ryham, Rolf J., 2006. VIGRE-Lovett Instructor in Mathematics

Sabharwal, Ashutosh, 2001. Assistant Professor in Electrical and Computer Engineering

Saggau, Peter, 2000. Adjunct Professor in Bioengineering
BS (1973) Technical College Ulm, Germany; MS (1977) Technical University, Munich, Germany; PhD (1988) University of Munich

Salas, Marcela, 1995. Senior Lecturer of Spanish.

Sams, Clarence F., 1997. Adjunct Assistant Professor of Biochemistry and Cell Biology
BA (1975), PhD (1983) Rice University

Samuels, Danny M., 1981. Harry K. Smith Visiting Professor of Architecture
BArch (1971) Rice University

San, Ka-Yiu, 1984. E. D. Butcher Professor in Bioengineering and Professor in Chemical and Biomolecular Engineering

Sanders, Betty S., 1988. Adjunct Assistant Professor of Psychology

Sanders, Gerard, 2008. Professor of Management
BS (1980) Brigham Young University; PhD (1996) University of Texas
Sanders, Paula A., 1987. Dean of Graduate and Postdoctoral Studies and Professor of History

Sarkar, Ratna G., 2007. Part-time Lecturer in Management and Associate Dean of Engineering for Global Initiatives

Sarkar, Vivek, 2007. Professor of Computer Science and E.D. Butcher Chair in Engineering

Satterbak, Ann E., 2002. Lecturer of Bioengineering and Director of Laboratory Instruction
BA (1990) Rice University; PhD (1995) University of Illinois

Sato, Hiroko, 1989. Senior Lecturer of Japanese


Sauer, Nancy, 2008. Part-time Lecturer in Management

Sawyer, Dale S., 1988. Professor of Earth Science and Associate of Will Rice College
BS (1976) Purdue University; PhD (1982) Massachusetts Institute of Technology

Sazzykin, Stanislav, 2005. Faculty Fellow in Physics and Astronomy
BS (1994) Utah State University; MS (1996) Moscow Institute of Physics and Technology; PhD (2000) Utah State University

Schaum, Robert Troy, 2008. Visiting Wortham Fellow

Schell, Rick, 2006. Lecturer in Communications in the Jones Graduate School of Management
BA (1971) Eastern Michigan University; MA (1975), PhD (1976) Rice University

Scherer, William N., 2007. Faculty Fellow in Computer Science

Schiller, Matthew A., 2005. Production Manager Theatre Program and Lecturer of Visual and Dramatic Arts/Theatre
BEA (1997) Southwestern University; MFA (2002) University of Houston

Schneider, David J., 1989. Professor of Psychology
BA (1962) Wabash College; PhD (1966) Stanford University

Schuh, Tatiana T., 2006. Assistant Professor of Psychology

Schouten, Mark Daniel, 2006. Visiting Assistant Professor in Naval Science
BS (2001)

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. Robert A. 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. Adjunct Professor of Anthropology
BA (1971) Fordham University; MA (1975) University of Texas–Austin; PhD (1980) University of Wisconsin–Madison

Seetharaman, Seethu, 2004. Professor of Management

Segatori, Laura, 2007. T.N. Law Assistant Professor in Chemical and Biomolecular Engineering
BS (2000), MS (2000) University of Bologna, Italy; PhD (2005) University of Texas at Austin

Segner III, Edmund, 1996. Professor in the Practice in Civil Engineering Managament
BS Rice University; MA University of Houston

Self, Sean, 2008. Adjunct Professor in Management

<table>
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<tr>
<th>Name</th>
<th>Title</th>
<th>Education</th>
</tr>
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<tr>
<td>Shanks, Jacqueline</td>
<td>2002. Adjunct Professor in Bioengineering</td>
<td>BS (1983) Iowa State University; PhD (1989) California Institute of Technology</td>
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<td>Shaulsky, Gad</td>
<td>2006. Adjunct Associate Professor in Ecology and Evolutionary Biology</td>
<td>BSc (1985), MSc (1986) Tel-Aviv University; Israel; PhD (1991) Weizmann Institute of Science, Rehovot, Israel</td>
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<td>Sheafor, Stephen J.</td>
<td>2002. Adjunct Professor in Electrical and Computer Engineering</td>
<td>BS (1972), MEE (1972), Rice University; PhD (1974) University of Illinois; MBA (1979) Santa Clara University</td>
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<td>Shen, Chao-Mei</td>
<td>2000. Senior Lecturer of Chinese</td>
<td>BA (1986) National Tsing Hua University; MA (1989) National Taiwan University; PhD (1998) University of Texas at Austin</td>
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<td>Sher, George</td>
<td>1991. Herbert S. Autrey Professor of Philosophy</td>
<td>BA (1964) Brandeis University; PhD (1972) Columbia University</td>
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<td>Shibatani, Masayoshi</td>
<td>2002. Deedee McMurtry Professor of Humanities and Professor of Linguistics</td>
<td>BA (1970), PhD (1973) University of California at Berkeley</td>
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<td>Shih, Ya-Chen Tina</td>
<td>2004. Adjunct Associate Professor of Statistics</td>
<td>BA (1988) National Taiwan University; MA (1990) National Tsing Hua University; PhD (1997) Stanford University</td>
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<td>Shipp, Stephanie S.</td>
<td>2000. Adjunct Assistant Professor of Earth Science</td>
<td>BS (1988) University of Maine; PhD (1999) Rice University</td>
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<td>Shvets, Gennady</td>
<td>2005. Adjunct Assistant Professor in Electrical and Computer Engineering</td>
<td>PhD (1995) Massachusetts Institute of Technology</td>
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<td>Si, Qimiao</td>
<td>1994. Harry C. and Olga K. Wiess Professor of Physics and Astronomy</td>
<td>BS (1986) University of Science and Technology of China; PhD (1991) University of Chicago</td>
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<td>Sickles, Robin</td>
<td>1985. Professor of Economics and Statistics</td>
<td>BS (1972) Georgia Institute of Technology; PhD (1976) University of North Carolina</td>
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<td>Siebert, Janet</td>
<td>2002. Faculty Fellow in Statistics</td>
<td>BS (1975) University of Central Arkansas; PhD (1997) University of Houston</td>
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<td>Sigrist, Markus W.</td>
<td>1994. Adjunct Professor in Electrical and Computer Engineering</td>
<td>Diplom. (1972), PhD (1977) ETH University, Zurich, Switzerland</td>
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<td>Simo, Juan Antonio</td>
<td>2008. Adjunct Professor of Earth Science</td>
<td>BS (1981), MS (1982), PhD (1985) University of Barcelona, Spain</td>
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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

Singer, Adam B., 2007. Adjunct Assistant Professor of Computational and Applied Mathematics

Singh, Siddharth S., 2003. Assistant Professor of Management

Skinner, David C., 2004. Lecturer in 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

Smith, Britton, 2005. Associate Professor of Cello

Smith, Clifton Wayne, 1993. Adjunct Professor in Bioengineering
BS (1963) Texas A&M University; MS (1966), MD (1968) University of Texas Medical Branch at Galveston

Smith, D. Brent, 2000. Associate Professor of Management, Associate Professor of Psychology, and Associate Dean of Executive Education
BA (1992) University of Tulsa; MA (1996), PhD (1999) University of Maryland, College Park

Smith, George, 1981. Professor of Visual Arts
BFA (1969) San Francisco Art Institute; MA (1972) Hunter College

Smith, Ian, 2000. Senior Faculty Fellow in Physics and Astronomy

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. Associate Provost, Adjunct Professor of Sociology and of Education Certification

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. Associate Professor of History and Associate of Will Rice College

Snow, Edward A., 1981. Mary Gibbs Jones Chair for the Humanities and 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

Sonenshein, Scott, 2007. Assistant Professor of Management

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

Sosa, Jason P., 2006. Lecturer in Kinesiology

Spanos, 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. Professor of Visual and Dramatic Arts

Sperandio, Christopher, 2008. Assistant Professor of Visual and Dramatic Arts

Speciale, Marie, 2002. Professor of Trumpet and Chair of Brass
BM (1964) College Conservatory of Music, University of Cincinnati

Spuler, Richard, 1992. Senior Lecturer of German and Resident Associate of Lovett College

Stallings, Tom, 2007. Lecturer of Kinesiology
BA (1981) University of Texas; MED (2008) University of Houston

Stallmann, Kurt, 2002. Lynette S. Autrey Assistant Professor of Composition and Theory
Stasney, C. Richard, 1999. Adjunct Professor of Performing Arts Medicine
BA (1965) Yale University; MD (1969) Baylor College of Medicine

Stein, Robert M., 1979. Lena Gohlman Fox Professor of Political Science
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Steiner, Uwe, 2001. Professor of German

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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. 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

Stoll, Richard J., 1979. Professor of Political Science
AB (1974) University of Rochester; PhD (1979) University of Michigan

Storthz, Karen Adler, 2007. Adjunct Professor in Bioengineering
BS (1976) Louisiana State University; MS (1978), PhD (1981) Louisiana State University—Medical Center

Stotts, Angela L., 2007. Adjunct Assistant Professor of Psychology

Strait, Richard B., 2007. Adjunct Professor in Chemical and Biomolecular Engineering
BS (1970) Ohio State University; MBA (1978) University of Tulsa

Strassmann, Diana, 2004. Professor of the Practice in Humanities

Strassmann, Joan E., 1980. Harry C. and Olga K. Wiess 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, 2001. Adjunct Professor of Management
BA (1991) University of California at Irvine; JD (1995) Tulane University

Subramanian, Devika, 1995. Professor of Computer Science and in Electrical and Computer Engineering

Suh, Junghae, (2007). Assistant Professor in Bioengineering

Sullender, Barry, 2003. Lecturer of Ecology and Evolutionary Biology
BS (1984) Virginia Polytechnic Institute and State University; PhD (1993) University of Oregon

Summers, Carolyn, 1999. Adjunct Professor of Physics and Astronomy
BA (1970) Vanderbilt University; MEd (1977), EdD (1979) University of Houston

Swint, John Michael, 1977. Adjunct 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 and Electrical and Computer Engineering
BS (1993) Kuwait University; PhD (1999) Oregon Graduate Institute

Tao, Yizhi Jane, 2002. Assistant Professor of Biochemistry and Cell Biology
BS (1992) Peking University; PhD (1999) Purdue University

Tapia, Richard A., 1970. University Professor and Maxfield-Oshman Professor of Computational and Applied Mathematics
BA (1961), MA (1966), PhD (1967) University of California at Los Angeles


Taylor, Ronald N., 1983. Professor of Management
BA (1960) Westminster College; MA (1964) University of Nebraska; PhD (1970) University of Minnesota

Temzelides, Ted, 2008. Professor of Economics
BA (1988) University of Piraeus, Greece; PhD (1995) University of Minnesota
Tezduyar, Tayfun E., 1998. James E Barbour Professor in Mechanical Engineering and Materials Science
MS (1978), PhD (1982) California Institute of Technology

Thompson, Ewa M., 1970. Research Professor in German and 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 (1963), PhD (1965) Princeton University

Tittel, Frank K., 1967. J. S. Abercrombie Professor in Electrical and Computer Engineering
BA (1955), MA, PhD (1959) Oxford University

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Tobin, Mary L., 1979. Lecturer on English
BA (1965) Carleton College; MA (1966) Columbia University; PhD (1973) Rice University

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Vannucci, Marina, 2006. Professor of Statistics  
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Veech, William A., 1969. Edgar Odell Lovett Chair in Mathematics  
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