2006 - 2007 General Catalog

The statements set forth in this catalog are for informational purposes only and should not be construed as the basis of a contract between a student and this institution.

While the provisions of this catalog will ordinarily be applied as stated, Georgia Tech reserves the right to change any provision listed in this catalog, including but not limited to academic requirements for graduation, without actual notice to individual students. Every effort will be made to keep students advised of any such changes. Information on changes will be available in the offices of the registrar, the dean of students, and the major schools and colleges. It is especially important that each student note that it is his or her responsibility to be aware of current graduation requirements for a particular degree program.

This institution is in compliance with **Title VI of the Civil Rights Act of 1964** and does not discriminate on the basis of race, creed, color, or national origin and is also in compliance with the provisions of **Title IX of the Educational Amendments of 1972**, which prohibit discrimination on the basis of sex.

It is the policy of the Institute that sexual harassment as defined in the EEOC Guidelines will not be tolerated among members of the Tech community. Any complaint of sexual harassment should be reported immediately to the appropriate person or persons designated by the vice president, dean, or director. Statistics on campus crime are available upon request from Georgia Tech's **Police Department**.

This catalog becomes effective with summer term 2006.

About this Catalog

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Academic Offerings

Through the Colleges of Architecture, Computing, Engineering, Management, Sciences, and the Ivan Allen College of Liberal Arts, Georgia Tech offers curricula leading to degrees in thirty-five undergraduate majors, six undesignated bachelor of science degrees, forty-six master's programs, and thirty doctoral programs as well as preparatory programs for law, dental, medical, and veterinary schools.

Accreditation

The Georgia Institute of Technology is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award bachelor's, master's, and doctoral degrees.

Inquiries to the Southern Association of Colleges and Schools (SACS) concerning alleged failures by the Georgia Institute of Technology to comply with or maintain accreditation should be forwarded to:

Southern Association of Colleges and Schools
1866 Southern Lane
Decatur, Georgia 30033-4097
Telephone number: 404.679.4501

In addition, many Institute programs are specifically accredited by appropriate professional certifying agencies.

The Engineering Accreditation Committee (EAC) of the Accreditation Board for Engineering and Technology Inc. (ABET) has accredited the curricula leading to bachelor's degrees in the following fields: aerospace engineering, chemical and biomolecular engineering, civil engineering, computer engineering, electrical engineering, industrial engineering, materials science and engineering, mechanical engineering, nuclear and radiological engineering, and polymer and fiber engineering. The EAC of ABET has accredited the advanced program leading to the master's degree in environmental engineering.

The American Chemical Society has certified the curriculum leading to the bachelor's degree in chemistry; the Human Factors and Ergonomics Society has accredited the curriculum leading to the Ph. D. in Engineering Psychology; the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the National Commission on Orthotic and Prosthetic Education (NCOPE) has accredited the curriculum leading to the master's degree in Prosthetics and Orthotics.

The Computing Accreditation Commission (CAC) of ABET Inc. has accredited the curriculum leading to the bachelor's degree in computer science.

The Association to Advance Collegiate Schools of Business has accredited the curriculum for all degrees awarded by the College of Management;

The National Architectural Accrediting Board has certified the curriculum leading to the Master of Architecture; the American Council for Construction Education has accredited the curriculum leading to the Bachelor of Science in Building Construction; the Master of Science in Building Construction and Integrated Facility Management is recognized by the International Facility Management Association (IFMA), and the Design Build Institute of America (DBIA). and the Planning Accreditation Board has accredited the curriculum leading to the Master of City and Regional Planning; the Bachelor of Science in Industrial Design has been accredited by the National Association of Schools in Art and Design (NASAD) and is recognized by the Industrial Designers Society of America.

The Counseling Center is accredited by the International Association of Counseling Services.

Georgia Tech Alumni Association

The Georgia Tech Alumni Association was chartered in June 1908 and incorporated in 1947 as a not-forprofit organization governed by a board of alumni volunteers known as the Board of Trustees.

The mission of the Georgia Tech Alumni Association is to serve alumni and promote the Institute. The Association will continually create relevant and meaningful programs for current and future alumni to foster lifelong participation and philanthropic support. The Association will communicate the achievements of the Institute, maintain its traditions, and strengthen relationships with the campus community. Underlying all the Association does is a belief in the value of education, a commitment to integrity and exceptional customer service, and a pledge to perform in a fiscally responsible manner.

The Association is organized around four major disciplines : the acquisition and management of information about Tech's alumni and friends, communication to these constituents , engagement of these supporters and fundraising.

It is currently organized into five departments: Administration/Technical Services, Communications, Marketing Services, Constituent Services and Fundraising/Business Development.

The offices of the Alumni Association are located in the L.W. "Chip" Robert Jr. Alumni House at 190 North Ave., Atlanta, Georgia 30313. Inquiries should be directed to 404.894.2391 or 1.800.GTALUMS (phone) or 404.894.5113 (fax). The Web address is **www.gtalumni.org**.

Georgia Tech Athletic Association

Intercollegiate sports are administered by this non-profit corporation through a board of trustees consisting of seven faculty members, three alumni, and three students, with the president of Georgia Tech serving as chair. The Athletic Association is committed to the development, preparation, support, and graduation of student-athletes through its Total Person Program and Academic Center. The Association provides and maintains facilities that allow the participation and enjoyment of a variety of sporting events by members of the Georgia Tech and Atlanta communities. Intercollegiate sports include football, basketball, cross country, indoor/outdoor track, golf, tennis, baseball, volleyball, swimming, and softball. The **Athletic Association** has made a commitment to excellence and to complement the mission of the Institute.

Distance Learning

Distance Learning and Professional Education (DLPE) enables the delivery of graduate-level courses throughout the state of Georgia, the nation and the world via the Internet (video-on-demand), DVD, and CD-ROM. Selected courses are available at some locations by video teleconferencing and satellite. The courses can be taken with a degree objective or for professional development. Students applying to a graduate program must meet the same admissions criteria as other degree-seeking students. A Master of Science degree can be earned entirely at a distance in the following:

1. Electrical and Computer Engineering
2. Aerospace Engineering
3. Building Construction and Integrated Facilities Management
4. Civil Engineering
5. Electrical and Computer Engineering
6. Environmental Engineering
7. Health Physics/Radiological Engineering
8. Industrial and Systems Engineering
9. Mechanical Engineering
10. Medical Physics
11. Operational Research

Students at remote sites receive class handouts via e-mail, or the Internet, and on CD-ROMs, DVDs, or videotapes of campus lectures. They communicate with their instructor via the Internet, telephone, computer, fax, and/or e-mail.

Some undergraduate courses are offered to Georgia Tech co-op students on work semester. Undergraduate engineering courses are delivered by video teleconferencing to engineering students at Georgia Tech Savannah and to other units of the University System of Georgia.

For more information, visit **www.dlpe.gatech.edu**, call 404.894.3500, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Language Institute

The Language Institute offers classes in English as a second language to international students and professionals from around the world and the local community and provides academic support for international students in degree programs at Georgia Tech. More than 1,000 students attend the programs offered by the Language Institute every year. These programs include an intensive English program designed to prepare international students for academic work at an American university, evening courses for international students and professionals from on and off campus, summer short courses, and online courses.

For information, visit **www.dlpe.gatech.edu**, call 404.894.2425, or write to:

Language Institute
Georgia Institute of Technology
151 6th Street N.W.
Atlanta, Georgia 30332-0374

Professional Education

Distance Learning and Professional Education (DLPE) coordinates the delivery of non-credit short courses and professional development programs to the public and to corporate clients. Programs are held on campus and at other selected locations in the United States and other countries. Professional education programs can also delivered via distance learning technologies.

Short courses, varying in length from one to five days, are offered throughout the year to assist professionals with acquiring knowledge of different fields and new technologies. Courses are offered on various topics in architecture, engineering and technology, science, health systems, management, economic development, and computing. There are thirty-four certificate programs comprised of sequences of short courses offered in the various topics listed above.

For information, visit **www.dlpe.gatech.edu**, call 404.385.3500, fax to 404.894.7398, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
Global Learning and Conference Center
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Georgia Tech Foundation Inc.

The Georgia Tech Foundation Inc. is a not-for-profit, tax-exempt corporation that receives, administers, and invests virtually all private contributions made in support of the academic programs of the Georgia Institute of Technology. The Foundation maintains its support of the Institute through the regular and emeritus members of its board of trustees, who are distinguished by their expertise in financial management and investments and by their devotion to Georgia Tech.

Endowment funds maintained by the Foundation furnish student scholarships and fellowships, faculty assistance, and general support to the academic divisions of the Institute. In addition, gifts and income from undesignated endowments provide unrestricted funds that help meet the most pressing needs of the Institute.

Family Educational Rights and Privacy Act (FERPA)

Notification of Student Rights Under FERPA and Directory Information

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student's education records within forty-five days of the day that the Institute receives the request for access.

   Students should submit to the registrar written requests that identify the record(s) they wish to inspect. The registrar will make arrangements for access and notify the student of the time and place where the records may be inspected.

2. The right to request the amendment of the student's education records that the student believes are inaccurate or misleading.

   Students may ask the Institute to amend a record that they believe is inaccurate or misleading. They should write the registrar, clearly identifying the part of the record they want changed, and specify why it is inaccurate or misleading.

   If the Institute decides not to amend the record as requested by the student, the Institute will notify the student of the decision and advise the student of his or her 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.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

   One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the Institute in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the Institute has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

   A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

4. The right to file a complaint with the Untied States Department of Education concerning alleged failures by the Georgia Institute of Technology to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202-4605

Annual Notice of "Directory Information" Contents

"Directory Information" is information not generally considered harmful or an invasion of privacy if disclosed. The Georgia Institute of Technology considers the following information to be "Directory Information":

Name, address, and telephone listing
Level (graduate or undergraduate)
Field of study
Dates of attendance

Degrees with associated honors and designations, and date(s) awarded

"Directory Information" cannot include student identification numbers or social security numbers.

Students who wish to prohibit the release of "Directory Information" can view information on the registrar's **confidentiality webpage**.

Human Relations Statement

Georgia Tech is a diverse community, composed of individuals and groups with a variety of religious, racial, national, cultural, sexual, and educational identities. The continuing need to deal constructively with this diversity is one of the great challenges facing us over the next two decades. The challenge is both professional and personal. Professionally, we increase the opportunities in our lives if we are able to constructively manage and guide such diversity with tolerance. The challenge is also personal because each of us has a legacy of religious, racial, national, cultural, sexual, and educational prejudices that influences our lives.

Each member of our community must be committed to the creation of a harmonious climate because one cannot be neutral to this challenge. Those who are committed to it strengthen Georgia Tech and themselves. Individuals who choose not to commit to the challenge, via acts of intolerance, jeopardize their continued affiliation with the Institute. Those acts may be defined as attempts to injure, harm, malign, or harass a person because of race, religious belief, color, sexual orientation, national origin, disability, age, or gender.

To belong to a global society, Georgia Tech must be a pluralistic institution. Only by embracing diversity, multiformity, and variety can we gain stature, strength, and influence in that global society.

The Institute is committed to maintaining academic and working environments free of objectionable conduct and communication that would be construed as sexual harassment. The determination of what constitutes sexual harassment will vary with particular circumstances, but it can be described as unwanted sexual behavior, such as physical contact or verbal comments that adversely affect the environment of an individual.

Georgia Tech Vision and Mission Statements

A Shared Vision

Our vision is bold: Georgia Tech will define the technological research university of the 21st century and educate the leaders of a technologically driven world.

A Common Mission

As a unit of the University System of Georgia, our mission is clear: to provide the state of Georgia with the scientific and technological base, innovation, and workforce it needs to shape a prosperous and sustainable future and quality of life for its citizens. It is achieved through educational excellence, innovative research, and outreach in selected areas of endeavor.

Georgia Tech's mission in education and research will provide a setting for students to engage in multiple intellectual pursuits in an interdisciplinary fashion. Because of our distinction for providing a broad but rigorous education in the multiple aspects of technology, Georgia Tech seeks students with extraordinary motivation and ability and prepares them for lifelong learning, leadership, and service. As an institution with an exceptional faculty, an outstanding student body, a rigorous curriculum, and facilities that enable achievement, we are an intellectual community for all those seeking to become leaders in society.

Georgia Tech values its position as a leading public research university in the United States and understands full well its responsibility to advance society toward a proper, fair, and sustainable future. By seeking to develop beneficial partnerships with public and private sectors in education, research, and technology, Georgia Tech ensures relevance in all that it does and assures that the benefits of its discoveries are widely disseminated and used in society.

Georgia Tech pursues its mission by giving the highest respect to the personal and intellectual rights of everyone in our diverse community. In return, we expect that all members of our community will conduct themselves with the highest ethical principles.

Library and Information Center

The Georgia Tech Library and Information Center houses one of the nation's largest collections of scientific and technical literature. Resources include more than 4 million volumes, more than 1.4 million government documents, more than 3,000 videotapes, a complete collection of U.S. patents, and approximately 2.75 million technical reports. The library receives more than 20,000 current periodicals.

The library, in cooperation with the Office of Information Technology, provides an Information Commons equipped with 100 high-end computer workstations. Georgia Tech faculty, students, and staff have access to more than 250 online databases containing citations, abstracts, newspapers, indexes to journals and conference proceedings, and the full text of 13,000 electronic periodicals. These databases, as well as the library's catalog, are accessed through the Georgia Tech Electronic Library (GTEL)(r) and Galileo, a statewide database service. Gateways to a variety of information resources available on the Internet are provided through GTEL(r). Students, faculty, and staff may use libraries at Emory University, Georgia State University, the University of Georgia, and other local schools via a Georgia Tech ID card.

The library's digital repository, rapidly gathering and serving access to the intellectual output of the campus, currently contains over 6,500 digital items from over 40 components of the campus.

Copiers are available on the main floor of the library. Students may use facilities for group or individual study. The library's information consultants provide training classes for all students in the use of GTEL (r), Galileo, and the Internet. Consultants also are available for advice about individual information needs.

Information Technology and Computing Facilities

The Office of Information Technology (OIT) provides technology leadership and support to Georgia Tech students, faculty, staff, and researchers. OIT serves as the primary source of information technology, cable television networking, and telecommunications services for the Institute. Key information technology services include operating the campus computer network, providing access to national research networks, providing technical support for centralized computer accounts and computing systems, and protecting the integrity of Institute data and administrative computing systems.

OIT has built the campus network architecture to provide very high performance general-purpose connectivity and peering, including Internet2, with services provided over a multigigabit backbone. OIT is responsible for the Southern Crossroads network aggregation point that connects universities and colleges in the Southeast. Georgia Tech also hosts Southern Light Rail, which serves as the anchor in the Southeast for National LambdaRail, a high-speed, optical fiber networking infrastructure designed for advanced research and experimentation.

Centrally managed computer user accounts permit on-campus access to the campus network and Internet, the wireless network, computing labs, and core computing services and resources. Remote access to computing resources is supported for the satellite campuses. Examples of core computing services include e-mail, online software distribution, online library resources, Web course development software, campus Web hosting, the campus Web portal, and associated software for collaboration and communication.

Students living on campus can access the Internet and the campus network from student residences, which are equipped with Internet connection ports and cabling. Students also have access to three general-purpose computing labs on campus. The computing lab in the library has more than one hundred computer workstations, including systems equipped for multimedia projects, and a presentation rehearsal studio.

In addition, academic and research units may operate their own computing labs. The Institute's computational science venue initiative operates a high-performance computing cluster and network emulation facility to support classes and start-up research projects. In conjunction, OIT's Public Access Clustering Environment (PACE) service fosters the acquisition and development of high-performance, parallel, and distributed (grid) computing systems by campus units.

Georgia Tech operates a wireless network for use with laptop computers and other mobile computing devices. The wireless network has wireless access points in and around most campus buildings and walk-up ports in several buildings. Outdoor wireless coverage includes green spaces, pedestrian corridors, and a one-mile corridor along the Tech Trolley route. The wireless network supports guest access through the incorporation of a commercial service.

Technology enhances academic and research activities in more than 250 classrooms, lecture halls, and specialty rooms. These rooms are equipped with desktop computers, video projectors, VCRs, DVD players, document cameras, audio systems, and electric screens. Videoconferencing and streaming media systems are available for teaching and collaboration on the main campus, at satellite campuses, and in distance learning programs.

Georgia Tech administers its own information systems, data repositories, and administrative software systems. The Institute manages information security with campus community education, policy development, technical measures to protect campus resources, and procedures for reacting to events that endanger the Institute's information assets. IT policy development and strategic planning enable Georgia Tech to keep pace with demands for the use and delivery of sustainable services. For more information, visit **www.oit.gatech.edu**.

General Information for Freshman Admission

Freshmen may apply only for the summer or fall terms. Following the completion of the junior year of high school, freshman applicants may submit the completed Application for Freshman Admission, nonrefundable application fee, and SAT I and/or ACT scores to the Office of Undergraduate Admission. International applicants and applicants who have been homeschooled will be required to submit additional information. Freshman applicants may choose to submit a paper copy of the application or complete one of the options found online at **www.apply.gatech.edu**. The Self-Reported Academic Record (SRAR) must cover the first three years of high school, with the applicant's senior year schedule indicated by semesters or quarters. The SRAR should show the type of grading system and any honors-level or advanced courses completed by the applicant.

It is the applicant's responsibility to ensure that all required elements, including the application, nonrefundable application fee, and SAT I and/or ACT scores are submitted on time. All elements must be postmarked October 31 to guarantee consideration for the President's Scholarship or postmarked January 15 to guarantee consideration for admission to Georgia Tech.

The Office of Undergraduate Admission will consider all completed applications on file by the stated deadlines provided spaces are available for the particular term or academic year for which the student applies. An application submitted after the deadline may receive consideration, but only at the discretion of the Institute.

For more information regarding freshman admission to the Georgia Institute of Technology, visit **www.admission.gatech.edu**, call 404.894.4154, or write to:

Director of Undergraduate Admission
Georgia Institute of Technology
Atlanta, Georgia 30332-0320

Academic Advising

The appointed academic advisor is the key source of information about college. All entering students are assigned an academic advisor depending on their declared majors at Georgia Tech. To find the assigned advisor, please visit www.advising.gatech.edu. Students will meet their assigned advisors at orientation and at regular intervals during their college careers. Advisors welcome questions about different programs and areas.

Academic advisors are the guides through the college experience. They will help to identify the correct major, curriculum, minor, certificates, study abroad, internships, campus resources, and much more.

While the degree requirements are posted on the **Registrar's Office Web page**, it is essential to check in with the assigned advisor at least once a year (if not more) to ensure that requirements are being met and communication lines are open. Also, regular contact with the advisor will enhance students' college experiences and reaching their future goals.

Policy on Competitive Admission (Freshman Applicants)

All qualified persons are equally welcome to seek admission to the Georgia Institute of Technology, and all persons may apply for and accept admission confident that the policy and regular practice of the Institute will not discriminate against them on the basis of race, religion, sex, or national origin.

Projections of the number of students to be admitted and enrolled in any year will be determined a) by the capacity of the Institute and b) by approved enrollment levels. If the number of qualified applicants for admission exceeds the number of applicants who can be admitted and enrolled, those to be offered admission will be selected on the basis of a) the Institute's judgment of the applicant's relative qualifications for satisfactory performance at the Institute and b) recognition of the Institute's special responsibilities to the residents of Georgia.

The policy on competitive admission will not prevent the admission of selected applicants who give evidence of possessing special talents for the Institute's programs requiring such special talents. In the application of this policy of competitive admission to nonresident applicants, preference for admission may be given to nonresident applicants who are legacies of the Institute. The admission of undergraduate applicants to pursue programs leading to a baccalaureate degree shall be the responsibility of the Office of Undergraduate Admission, which will apply policies and procedures approved by the Office of the President and the Board of Regents of the University System of Georgia. Preference for admission will be given to qualified residents of Georgia.

The criteria used in determining each applicant's qualifications for admission shall include satisfactory evidence of scholastic promise based upon the applicant's previous academic record, scores on selected tests of aptitude or achievement, and evaluation of the applicant's Personal Statement and Leadership and Activity Record. Applicants who do not satisfy basic admission criteria may, for sufficient reason, be admitted with the approval of the Executive Admissions Committee appointed by the president of the Institute. Appeals concerning individual admission decisions shall be lodged with the director of the Office of Undergraduate Admission.

Required Student Computer Ownership

In an effort to foster equal access to computers and to make the most of the teaching and learning technology available at Georgia Tech, all undergraduate students entering Georgia Tech under this or subsequent catalogs are required to own or lease a computer. The minimum hardware and software requirements (as well as purchasing and financing options) are sent each spring to students accepted for the summer and fall semesters, and in the fall to students accepted for spring semester.

Because computer ownership is mandatory, an average cost for the minimum hardware and software required can be included in computing a new student's cost of education for the purpose of determining their eligibility for all forms of student financial aid. Students should contact the Office of Student Financial Planning and Services for more information.

International Students

International students should access further information regarding application policies and procedures and other basic information helpful to applicants from other countries by visiting **www.admiss.gatech.edu/international**. International students will not receive financial aid or institutional scholarships.

For more information, contact the Office of Undergraduate Admission at 404.894.4154.

FASET Orientation (new student orientation)

The student/parent orientation program informs new students and their parents/guests of academic programs and requirements, in addition to familiarizing them with Georgia Tech traditions and the activities and services available on campus.

For more information, call 404.894.6897 or visit **www.faset.gatech.edu**.

Regents’ Testing Program

To establish eligibility for an undergraduate degree, every student in the University System of Georgia must pass the Regents’ Test, an examination designed to measure proficiency in reading and English composition. Students are invited to take this examination when they have earned ten hours of college credit. Any student accumulating forty-five hours of college credit toward a degree without passing the Regents’ Test must schedule remedial English or reading along with other credit coursework. If a student fails in the first attempt, he or she must repeat the test. Alternative tests of competence and remediation are offered to non-native speakers of English. In addition, alternative tests are offered for students with disabilities documented through the Dean of Students’ Office. Listed below are test scores that can be used to satisfy the Regents' Test requirements.

1. The READING portion of the test can be satisfied with:
    1. SAT Verbal score of 510 or higher
    2. ACT Reading score of 23 or higher
2. The ESSAY portion of the test can be satisfied with:
    1. SAT-I Verbal score of at least 530 and a grade of *A* in English 1101
    2. SAT-I Verbal score of at least 590 and a grade of *B* in English 1101
    3. SAT II English Writing score of 650 or higher
    4. ACT English score of at least 23 and a grade of *A* in English 1101
    5. ACT English score of at least twenty-six and a grade of *B* in English 1101
    6. AP English score of 3 or higher
    7. International Baccalaureate higher-level English score of 4 or higher

Scores must be from a national administration of the SAT or ACT. Scores from institutional SAT or residual ACT tests will not be acceptable for this purpose.

General Information for Transfer Admission

Transfer applicants may apply for the summer, fall, or spring terms. Transfer applicants must submit the completed Application for Transfer Admission, nonrefundable application fee, official college transcript(s) from all colleges attended, and, if appropriate, any additional forms related to a special transfer program. Applicants who apply with fewer than thirty transferable hours at the time of application must submit a final high school transcript. Transfer applicants may choose to submit a paper copy of the application or complete one of the online options at **www.apply.gatech.edu**.

It is the applicant's responsibility to ensure that all required elements, including the application, nonrefundable application fee, and official transcript(s), are submitted on time. All elements must be postmarked February 1 to guarantee consideration for summer or fall semester admission, or postmarked October 1 to guarantee consideration for spring semester admission.

The Office of Undergraduate Admission will consider all applications on file by the stated deadlines, provided spaces are available for the particular term or academic year for which the applicant applies. An application submitted after the deadline may receive consideration, but only at the discretion of the Institute.

For more information regarding transfer admission to the Georgia Institute of Technology or any of the special transfer programs offered, visit **www.transfer.gatech.edu**, call 404.894.4154, or write to:

Office of Undergraduate Admission
Georgia Institute of Technology
Atlanta, Georgia 30332-0320

Policy on Transfer Admission

All qualified persons are equally welcome to seek transfer admission to the Georgia Institute of Technology, and all persons may apply for and accept admission confident that the policy and regular practice of the Institute will not discriminate against them on the basis of race, religion, sex, or national origin.

Projections of the number of transfer students to be admitted and enrolled in any year will be determined by: a) the capacity of the Institute and b) approved enrollment levels. If the number of qualified applicants for admission exceeds the number of applicants who can be admitted and enrolled, those to be offered admission will be selected on the basis of a) the Institute's judgment of the applicant's relative qualifications for satisfactory performance at the Institute and b) recognition of the Institute's special responsibilities to the residents of Georgia.

The policy of admissions set forth above will not prevent the admission of selected applicants who give evidence of possessing special talents for the Institute's programs requiring such special talents.

The admission of undergraduate students to pursue programs leading to a bachelor's degree shall be the responsibility of the Office of Undergraduate Admission, which will apply policies and procedures approved by the Office of the President and the Board of Regents of the University System of Georgia. Preference for admission will be given to qualified residents of Georgia.

The criteria used in determining each transfer applicant's qualifications for admission will include satisfactory evidence of scholastic promise based upon the applicant's previous academic transfer record. Under special circumstances, applicants may be admitted by the Executive Admissions Committee appointed by the president of the Institute. Appeals concerning individual admission decisions shall be lodged with the director of the Office of Undergraduate Admission.

Academic Advising

The appointed academic advisor is the key source of information about college. All entering students are assigned an academic advisor depending on their declared majors at Georgia Tech. To find the assigned advisor, please visit www.advising.gatech.edu. Students will meet their assigned advisors at orientation and at regular intervals during their college careers. Advisors welcome questions about different programs and areas.

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Because computer ownership is mandatory, an average cost for the minimum hardware and software required can be included in computing a new student's cost of education for the purpose of determining their eligibility for all forms of student financial aid. Students should contact the Office of Student Financial Planning and Services for more information.

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    2. SAT-I Verbal score of at least 590 and a grade of *B* in English 1101
    3. SAT II English Writing score of 650 or higher
    4. ACT English score of at least 23 and a grade of *A* in English 1101
    5. ACT English score of at least twenty-six and a grade of *B* in English 1101
    6. AP English score of 3 or higher
    7. International Baccalaureate higher-level English score of 4 or higher

Scores must be from a national administration of the SAT or ACT. Scores from institutional SAT or residual ACT tests will not be acceptable for this purpose.

Transfer Credit

The basic policy regarding the acceptance of courses by transfer is to allow credit for courses completed with satisfactory grades (*C* or better) at other accredited colleges and universities in the United States and Canada, provided the courses correspond in time and content to courses offered at the Georgia Institute of Technology. Georgia Tech will not accept credit for courses successfully completed at another institution but previously taken at Georgia Tech unless the final grade received at Georgia Tech is a W. The student must request and file an official transcript of transfer courses before the Institute can award credit. Coursework completed at colleges and universities outside the United States and Canada will be evaluated on a case-by-case basis. Transfer credit is not calculated in the Georgia Tech grade point average.

Students may attend another institution as a transient student during terms when not enrolled at Georgia Tech. Students should discuss their course selection with their academic advisor to ensure transferability and applicability toward their degree programs. With the exception of officially sanctioned crossenrolled programs, students are not to be enrolled at Georgia Tech and another institution during the same term without the specific approval of the appropriate curriculum committee.

General Information for Readmission

Georgia Tech students who are not enrolled for two or more consecutive terms must apply for readmission. The Application for Readmission, with all pertinent supporting information, must be submitted to the Registrar's Office before the deadline for the term for which readmission is requested as listed below:

Term Deadline *

Term	Date
Fall	1-July
Spring	1-December
Summer	1-April

*** Former students on drop or review status should apply at least two months prior to these deadlines in order to ensure sufficient time for the review process.** The section "Rules and Regulations" in this catalog contains additional information on readmission.

Students who withdraw from school (receiving all Ws) will not ordinarily be permitted to enroll the next succeeding term. If an exception is requested due to unusual circumstances, a Petition to the Faculty must be filed.

Students who have been out two or more terms are required to obtain a Tuberculosis Screening form signed, dated, and addressed by a medical practitioner. Please refer to **www.health.gatech.edu/main/10_new_students/** for a form to download. Depending on how long you have been out of school, you may be required to have additional immunizations. Should you have additional questions regarding your immunizations, e-mail the Health Center by clicking below. You must satisfy all immunization requirements prior to registration.

Readmission Immunization Requirements

Students who have been out two or more terms are required to obtain a Tuberculosis Screening form signed, dated, and addressed by a medical practitioner. Please refer to **www.health.gatech.edu/main/10_new_students/** for a form to download. Depending on how long you have been out of school, you may be required to have additional immunizations. Should you have additional questions regarding your immunizations, e-mail the Health Center by clicking below. You must satisfy all immunization requirements prior to registration.

Academic Advising

The appointed academic advisor is the key source of information about college. All entering students are assigned an academic advisor depending on their declared majors at Georgia Tech. To find the assigned advisor, please visit www.advising.gatech.edu. Students will meet their assigned advisors at orientation and at regular intervals during their college careers. Advisors welcome questions about different programs and areas.

Academic advisors are the guides through the college experience. They will help to identify the correct major, curriculum, minor, certificates, study abroad, internships, campus resources, and much more.

While the degree requirements are posted on the **Registrar's Office Web page**, it is essential to check in with the assigned advisor at least once a year (if not more) to ensure that requirements are being met and communication lines are open. Also, regular contact with the advisor will enhance students' college experiences and reaching their future goals.

Browse By College, School, Program, or Degree

College of Architecture

ARCHITECTURE PROGRAM

Bachelor of Science with a Major in Architecture

Bachelor of Science with a Major in Architecture Int'l Designator Option #1 (Paris)

Bachelor of Science with a Major in Architecture Int'l Designator Option #2

Master of Architecture (M.ARCH I)

Master of Architecture (M.ARCH II)

Master of Science with a Major in Architecture

Doctor of Philosophy with a Major in Architecture

Dual Degree Programs:

Architecture & City & Regional Planning

BUILDING CONSTRUCTION PROGRAM

Bachelor of Science in Building Construction

Master of Science in Building Construction and Integrated Facility Management - IFM Track

Master of Science in Building Construction and Integrated Facility Management - IPDS Track

Doctor of Philosophy with a Major in Architecture (Building Construction)

CITY & REGIONAL PLANNING PROGRAM

B.S. / M.CRP

Master of City and Regional Planning

Doctor of Philosophy with a Major in Architecture (City and Regional Planning)

Dual Degree Programs:

City & Regional Planning & Environmental Engineering

City & Regional Planning & GSU Juris Doctor degree program

City & Regional Planning & Public Policy

City & Regional Planning & Civil Engineering

City & Regional Planning & Architecture

City & Regional Planning & Civil Engineering

INDUSTRIAL DESIGN PROGRAM

Bachelor of Science in Industrial Design

Master of Industrial Design

Doctor of Philosophy with a Major in Architecture (Industrial Design)

DEPARMENT OF MUSIC

College of Computing

Bachelor of Science in Computational Media (Interdisciplinary with IAC)

Bachelor of Science in Computational Media-Int'l Designator (Interdisciplinary with IAC)

Bachelor of Science in Computational Media-Research Option (Interdisciplinary with IAC)

Bachelor of Science in Computer Science

Bachelor of Science in Computer Science-Int'l Designator

Bachelor of Science in Computer Science-Research Option

Master of Science in Bioengineering

Master of Science in Computer Science

Master of Science in Human-Computer Interaction

Master of Science in Information Security

Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Computer Science

Doctor of Philosophy in Human-Centered Computing

College of Engineering

SCHOOL OF AEROSPACE ENGINEERING

Bachelor of Science in Aerospace Engineering

Bachelor of Science in Aerospace Engineering - Int'l Designator Option #1

Bachelor of Science in Aerospace Engineering - Int'l Designator Option #2

B.S./M.S.A.E.(Five-year)

Master of Science in Aerospace Engineering

Master of Science with a Major in Aerospace Engineering

Doctor of Philosophy with a Major in Aerospace Engineering

SCHOOL OF CHEMICAL AND BIOMOLECULAR ENGINEERING

Bachelor of Science in Chemical & Biomolecular Engineering

Bachelor of Science in Chemical & Biomolecular Engineering - Biotechnology Option

Bachelor of Science in Chemical & Biomolecular Engineering - Research Option

B.S./M.S.C.H.B.E. (Five-year)

Master of Science in Bioengineering

Master of Science in Chemical Engineering

Master of Science with a Major in Chemical Engineering

Master of Science in Paper Science and Engineering

Master of Science in Polymers

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Chemical Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF CIVIL & ENVIRONMENTAL ENGINEERING

Bachelor of Science in Civil Engineering

Bachelor of Science in Civil Engineering - Int'l Designator

Bachelor of Science in Environmental Engineering

B.S./M.S.C.E. (Five-year)

Master of Science in Civil Engineering

Master of Science in Engineering Science and Mechanics

Master of Science in Environmental Engineering

Master of Science with a Major in Civil Engineering

Master of Science with a Major in Environmental Engineering

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Civil Engineering

Doctor of Philosophy with a Major in Engineering Science and Mechanics

Doctor of Philosophy with a Major in Environmental Engineering

SCHOOL OF ELECTRICAL & COMPUTER ENGINEERING

Bachelor of Science in Computer Engineering

Bachelor of Science in Computer Engineering - Int'l Designator

Bachelor of Science in Computer Engineering - Research Option

Bachelor of Science in Electrical Engineering

Bachelor of Science in Electrical Engineering - Int'l Designator

Bachelor of Science in Electrical Engineering - Research Option

Bachelor of Science with a Major in Electrical Engineering

B.S./M.S.E.C.E. (Five-year)

Dual M.S.E.C.E. with Shanghai Jiao Tong University (SJTU)

Master of Science in Bioengineering

Master of Science with a Major in Electrical and Computer Engineering

Doctor of Philosophy with a Major in Electrical and Computer Engineering

Doctor of Philosophy with a Major in Bioengineering

GT/EMORY DEPARTMENT OF BIOMEDICAL ENGINEERING

Bachelor of Science in Biomedical Engineering

Bachelor of Science in Biomedical Engineering - Int'l Designator

Master of Science in Bioengineering

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Biomedical Engineering

SCHOOL OF INDUSTRIAL & SYSTEMS ENGINEERING

Bachelor of Science in Industrial Engineering

Bachelor of Science in Industrial Engineering - Int'l Designator

Master of Science in Health Systems

Master of Science in Industrial Engineering

Master of Science in International Logistics

Master of Science in Operations Research

Master of Science in Quantitative and Computational Finance

Master of Science in Statistics

Master of Science with a Major in Industrial Engineering - Human Integrated Systems Track

Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Industrial Engineering - Optimization Track

Doctor of Philosophy with a Major in Industrial Engineering - Stochastic Systems Track

Doctor of Philosophy with a Major in Industrial Engineering - Manufacturing / Logistics Track

Doctor of Philosophy with a Major in Industrial Engineering - Economic Decision Analysis Track

Doctor of Philosophy with a Major in Industrial Engineering - Applied Statistics Track

Doctor of Philosophy with a Major in Industrial Engineering - Human-Integrated Systems Track

SCHOOL OF MATERIALS SCIENCE & ENGINEERING

Bachelor of Science in Materials Science and Engineering

Bachelor of Science in Materials Science and Engineering - Research Option

B.S./M.S.M.S.E. (Five-year)

Master of Science in Materials Science and Engineering

Master of Science in Paper Science and Engineering

Master of Science in Bioengineering

Master of Science in Polymers

Master of Science with a Major in Materials Science and Engineering

Doctor of Philosophy with a Major in Materials Science and Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

Doctor of Philosophy with a Major in Bioengineering

SCHOOL OF MECHANICAL ENGINEERING

Bachelor of Science in Mechanical Engineering

Bachelor of Science in Mechanical Engineering - Int'l Designator

Bachelor of Science in Nuclear and Radiological Engineering

Master of Science in Bioengineering

Master of Science in Mechanical Engineering

Master of Science in Medical Physics

Master of Science in Nuclear Engineering

Master of Science in Paper Science and Engineering

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Mechanical Engineering

Doctor of Philosophy with a Major in Nuclear and Radiological Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF POLYMER, TEXTILE & FIBER ENGINEERING

Bachelor of Science in Polymer and Fiber Engineering - Fiber Track

Bachelor of Science in Polymer and Fiber Engineering - Polymer Track

B.S./M.S.P.T.F.E. (Five-year)

Master of Science with a Major in Polymers

Master of Science in Polymers - Polymers Material Science Track

Master of Science in Polymers - Polymer Chemistry Track

Doctor of Philosophy with a Major in Textile Engineering - Polymer Materials Science Track

Doctor of Philosophy with a Major in Textile Engineering - Polymer Chemistry Track

College of Management

Bachelor of Science in Management

Bachelor of Science in Management-Int'l Designator-Option #1

Bachelor of Science in Management-Int'l Designator-Option #2

Master of Business Administration

Global Executive Master of Business Administration

Master of Science in Management of Technology

Master of Science in Quantitative and Computational Finance

Doctor of Philosophy with a Major in Management

Ivan Allen College of Liberal Arts

SCHOOL OF ECONOMICS

Bachelor of Science in Economics

Bachelor of Science in Economics - Int'l Designator

Bachelor of Science in Economics and International Affairs

Bachelor of Science in Economics and International Affairs - Int'l Designator #1

Bachelor of Science in Economics and International Affairs - Int'l Designator #2

Bachelor of Science in Global Economics and Modern Languages

Bachelor of Science in Global Economics and Modern Languages - Int'l Designator

Master of Science with a Major in Economics

SCHOOL OF HISTORY, TECHNOLOGY, & SOCIETY

Bachelor of Science in History, Technology, and Society

Bachelor of Science in History, Technology, and Society - Int'l Designator

Master of Science in History and Sociology of Technology and Science

Doctor of Philosophy with a Major in History and Sociology of Technology and Science

SCHOOL OF INTERNATIONAL AFFAIRS

Bachelor of Science in International Affairs

Bachelor of Science in International Affairs - Int'l Designator

Bachelor of Science in International Affairs and Modern Language

Bachelor of Science in International Affairs and Modern Language - Int'l Designator

Bachelor of Science in Economics and International Affairs

Bachelor of Science in Economics and International Affairs - Int'l Designator #1

Bachelor of Science in Economics and International Affairs - Int'l Designator #2

Master of Science in International Affairs

SCHOOL OF LITERATURE, COMMUNICATION, & CULTURE

Bachelor of Science in Computational Media (Interdisciplinary with COC & Ivan Allen College)

Bachelor of Science in Computational Media - Int'l Designator (Interdisciplinary with COC)

Bachelor of Science in Computational Media - Research Option (Interdisciplinary with COC)

Bachelor of Science in Science, Technology, and Culture

Bachelor of Science in Science, Technology, and Culture - Biomedicine & Culture Option

Bachelor of Science in Science, Technology, and Culture - Gender Studeis Option

Bachelor of Science in Science, Technology, and Culture - Media Option

B.S./M.S.L.C.C. (Five-year)

Master of Science in Human-Computer Interaction

Master of Science in Information Design and Technology

Doctor of Philosophy with a Major in Digital Media

SCHOOL OF MODERN LANGUAGES

Bachelor of Science in International Affairs and Modern Language

Bachelor of Science in International Affairs and Modern Language - Int'l Designator

Bachelor of Science in Global Economics and Modern Languages

Bachelor of Science in Global Economics and Modern Languages - Int'l Designator

PUBLIC POLICY

Bachelor of Science in Public Policy

B.S./M.S.PUB.P. (Five-year)

Master of Science in Public Policy

Doctor of Philosophy with a Major in Public Policy

Reserve Officers' Training Corps (ROTC)

Air Force Reserve Officers' Training Corps (ROTC)

Army Reserve Officers' Training Corps (ROTC)

Navy Reserve Officers' Training Corps (ROTC)

College of Sciences

SCHOOL OF APPLIED PHYSIOLOGY

Master of Science in Prosthetics and Orthotics

Doctor of Philosophy in Applied Physiology

SCHOOL OF BIOLOGY

Bachelor of Science in Applied Biology

Bachelor of Science in Applied Biology - Business Option

Bachelor of Science in Applied Biology - Int'l Designator

Bachelor of Science in Applied Biology - Research Option

Master of Science in Applied Biology

- Master of Science in Bioinformatics
- Doctor of Philosophy with a Major in Applied Biology
- Doctor of Philosophy with a Major in Bioinformatics

SCHOOL OF CHEMISTRY & BIOCHEMISTRY

- Bachelor of Science in Chemistry
- Bachelor of Science in Chemistry - Biochemistry Option
- Bachelor of Science in Chemistry - Business Option
- Bachelor of Science in Chemistry - Materials Option
- Bachelor of Science in Chemistry - Polymer Option
- Master of Science in Chemistry
- Master of Science in Paper Science and Engineering
- Doctor of Philosophy with a Major in Bioinformatics
- Doctor of Philosophy with a Major in Chemistry
- Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF EARTH & ATMOSPHERIC SCIENCES

- Bachelor of Science in Earth and Atmospheric Science
- Bachelor of Science in Earth and Atmospheric Sciences - Research Option
- B.S./M.S.E.A.S. (Five-year)
- Master of Science in Earth and Atmospheric Science
- Master of Science with a Major in Earth and Atmospheric Science
- Doctor of Philosophy with a Major in Earth and Atmospheric Sciences

SCHOOL OF MATHEMATICS

- Bachelor of Science in Applied Mathematics
- Bachelor of Science in Applied Mathematics - Business Option
- Bachelor of Science in Discrete Mathematics
- Bachelor of Science in Discrete Mathematics - Business Option
- Master of Science in Mathematics
- Master of Science in Quantitative and Computational Finance
- Master of Science in Statistics
- Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization
- Doctor of Philosophy with a Major in Bioinformatics
- Doctor of Philosophy with a Major in Mathematics

SCHOOL OF PHYSICS

- Bachelor of Science in Applied Physics
- Bachelor of Science in Physics
- Master of Science in Applied Physics
- Master of Science in Physics
- Doctor of Philosophy with a Major in Physics

SCHOOL OF PSYCHOLOGY

- Bachelor of Science in Applied Psychology
- Bachelor of Science in Applied Psychology - Research Option
- Bachelor of Science in Applied Psychology - Business Option
- Master of Science in Human-Computer Interaction
- Doctor of Philosophy with a Major in Psychology - Engineering Psychology
- Doctor of Philosophy with a Major in Psychology - Experimental Psychology
- Doctor of Philosophy with a Major in Psychology - Industrial/Organizational Psychology

Click here for the official Board of Regents' degree list

University System of Georgia Core Requirements

The following is a description of core requirements effective as of Georgia Tech's first semester term Fall 1999. The courses that can be used to satisfy the various area requirements are subject to change, and will be updated as soon as possible. Please check back regularly to obtain the most current information.

Courses completed at the 3000-4000 level may not satisfy the Core Curriculum Area C and Area E requirements for students transferring to other units of the University System of Georgia.

Any courses completed that were listed in prior catalogs as satisfying the humanities/social science requirement and were completed while that catalog was in effect may also be used to satisfy this requirement.

Core Area A-Essential Skills (ten semester hours)

Area A is satisfied by completion of 10 semester hours as follows.

Required for all majors:

Course	Class Title	Credit Hours
ENGL 1101	English Composition I	3 semester hours
ENGL 1102	English Composition II	3 semester hours

Required of all students majoring in the College of Architecture, Computing, Engineering, and Sciences:

Course	Class Title	Credit Hours
MATH 1501	Calculus I	4 semester hours

Required of all other majors:

Course	Class Title	Credit Hours
MATH 1712	Survey of Calculus	4 semester hours
MATH 1501	Calculus I	4 semester hours

Core Area B-Institutional Options (four semester hours)

Area B is satisfied by students completing the following:

Electives approved by the program plus one hour from Area A.

Core Area C-Humanities (six semester hours)

- The humanities requirement (Core Area C) is satisfied by completion of six semester hours from the list below.
- Humanities credit awarded for Modern Languages 1001 classes upon successful completion of the corresponding 1002 classes. Humanities credit is awarded for SPAN 1101 only upon the successful completion of SPAN 1102.
- Undergraduate Research courses numbered 2698, 2699, 4698, and 4699 cannot be used to fulfill requirements for humanities or social science requirements.
- **Additional Music Core Area C Information**

ARBC 1002
ARBC 1813
ARBC 1814
ARBC 2001
ARBC 2002
ARBC 2813
ARBC 3813
ARBC 4813
ARCH 2111
ARCH 2112
ARCH 2115
ARCH 4109
ARCH 4110
ARCH 4113
ARCH 4114
ARCH 4117
ARCH 4118
ARCH 4119
ARCH 4120
ARCH 4124
ARCH 4128
ARCH 4151
ARCH 4305
CHIN 1002
CHIN 1012
CHIN 1813
CHIN 1814
CHIN 2001
CHIN 2002
CHIN 2011
CHIN 2012
CHIN 2813
CHIN 2XXX
CHIN 3003
CHIN 3004
CHIN 3021
CHIN 3022
CHIN 3691
CHIN 3692
CHIN 3813
CHIN 3XXX
CHIN 4001
CHIN 4002
CHIN 4813
CHIN 4XXX
COA 2241
COA 2242
COA 3114
COA 3115
COA 3116
CP 4040

FREN 3012
FREN 3030
FREN 3061
FREN 3062
FREN 3121
FREN 3691
FREN 3692
FREN 3693
FREN 3694
FREN 3813
FREN 3XXX
FREN 4001
FREN 4061
FREN 4062
FREN 4101
FREN 4102
FREN 4813
FREN 4XXX
GRMN 1002
GRMN 1813
GRMN 2001
GRMN 2002
GRMN 2813
GRMN 2XXX
GRMN 3010
GRMN 3011
GRMN 3024
GRMN 3025
GRMN 3034
GRMN 3035
GRMN 3036
GRMN 3071
GRMN 3072
GRMN 3695
GRMN 3696
GRMN 3697
GRMN 3813
GRMN 3XXX
GRMN 4023
GRMN 4024
GRMN 4061
GRMN 4062
GRMN 4813
GRMN 4XXX
HUM 1XXX
HUM 21XX
HUM 2XXX
HUM 3XXX
HUM 4XXX
ID 2202
INTA 4743

JAPN 3693
JAPN 3813
JAPN 3XXX
JAPN 4113
JAPN 4123
JAPN 4133
JAPN 4743
JAPN 4813
JAPN 4XXX
KOR 1002
KOR 1813
KOR 1814
KOR 2001
KOR 2002
KOR 2813
KOR 3813
KOR 4813
LCC 2100
LCC 2102
LCC 2104
LCC 2106
LCC 2108
LCC 2110
LCC 2112
LCC 2114
LCC 2116
LCC 2118
LCC 2200
LCC 2202
LCC 2204
LCC 2206
LCC 2208
LCC 2210
LCC 2212
LCC 2214
LCC 2216
LCC 2218
LCC 2300
LCC 2400
LCC 2500
LCC 2600
LCC 2813
LCC 2823
LCC 3202
LCC 3204
LCC 3206
LCC 3208
LCC 3210
LCC 3212
LCC 3214
LCC 3216

LCC 3304
LCC 3306
LCC 3308
LCC 3310
LCC 3314
LCC 3316
LCC 3318
LCC 3352
LCC 3362
LCC 3823
LCC 3833
LCC 3843
LCC 3853
LCC 3863
LCC 4204
LCC 4811
LCC 4812
LCC 4813
LCC 4814
LCC 4815
LING 1813
LING 1XXX
LING 2001
LING 2002
LING 2813
LING 3010
LING 3750
LING 3813
LING 4002
LING 4813
ML 2813
ML 4813
MUSI 2600
MUSI 3450
MUSI 3500
MUSI 3600
MUSI 3610
MUSI 3620
MUSI 4450
MUSI 4801
MUSI 4802
MUSI 4803
MUSI 4813
MUSI 4823
MUSI 4833
PST 1101
PST 2050
PST 2068
PST 3102
PST 3103
PST 3105

PST 4814
PST 4815
RUSS 1002
RUSS 1813
RUSS 1814
RUSS 2001
RUSS 2002
RUSS 2813
RUSS 2XXX
RUSS 3001
RUSS 3002
RUSS 3803
RUSS 3813
RUSS 3823
RUSS 3XXX
RUSS 4813
RUSS 4XXX
SPAN 1002
SPAN 1102
SPAN 1813
SPAN 2001
SPAN 2002
SPAN 2813
SPAN 2XXX
SPAN 3061
SPAN 3062
SPAN 3101
SPAN 3102
SPAN 3111
SPAN 3112
SPAN 3121
SPAN 3122
SPAN 3170
SPAN 3235
SPAN 3236
SPAN 3241
SPAN 3242
SPAN 3691
SPAN 3692
SPAN 3693
SPAN 3694
SPAN 3813
SPAN 3XXX
SPAN 4061
SPAN 4062
SPAN 4065
SPAN 4070
SPAN 4141
SPAN 4142
SPAN 4151
SPAN 4152

CS 4752
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FREN 2002
FREN 2813
FREN 2XXX
FREN 3001
FREN 3002
FREN 3004
FREN 3007
FREN 3008
FREN 3011
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JAPN 2002
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JAPN 2XXX
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JAPN 3691
JAPN 3692
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LCC 3219
LCC 3220
LCC 3222
LCC 3225
LCC 3226
LCC 3228
LCC 3234
LCC 3252
LCC 3254
LCC 3256
LCC 3262
LCC 3302
PST 3109
PST 3113
PST 3115
PST 3127
PST 4110
PST 4112
PST 4174
PST 4176
PST 4752
PST 4803
PST 4811
PST 4812
PST 4813
SPAN 4154
SPAN 4160
SPAN 4165
SPAN 4170
SPAN 4235
SPAN 4236
SPAN 4242
SPAN 4254
SPAN 4255
SPAN 4813
SPAN 4XXX

Core Area D-Science, Mathematics, and Technology (twelve hours)

Area D is satisfied by students completing eight semester hours from the science list, and four semester hours from the Mathematics list:

SCIENCE

Course	Class Title	Credit Hours
CHEM 1310	General Chemistry	4 semester hours
CHEM 1311	Inorganic Chemistry I	3 semester hours
CHEM 1312	Inorganic Chem Lab	1 semester hours
BIOL 1510	Biological Principles	4 semester hours
BIOL 1511	Honors Biological Principles	4 semester hours
BIOL 1520	Intro to Organismal Biology	4 semester hours
BIOL 1521	Honors Intro to Organismal Biology	4 semester hours
EAS 1600	Intro to Environmental Field Science	4 semester hours
EAS 1601	Habitable Planet	4 semester hours
EAS 2600	Earth Processes	4 semester hours
PHYS 2211	Intro. Physics I	4 semester hours
PHYS 2212	Intro. Physics II	4 semester hours

Mathematics

All students with majors in the Colleges of Architecture, Computing, Engineering, and Science will complete the following:

Course	Class Title	Credit Hours
MATH 1502	Calculus II	4 semester hours

All other majors will complete the following:

Course	Class Title	Credit Hours
MATH 1711	Finite Mathematics	4 semester hours
MATH 1502	Calculus II	4 semester hours

Core Area E-Social Science (twelve semester hours)

The social science requirement (Core Area E) is satisfied by completion of the United States/Georgia history and constitution legislative requirement with three semester hours from HIST 2111, 2112, **POL 1101**, **INTA 1200**, PUBP 3000, and nine semester hours from the following list.

EFFECTIVE FALL TERM 2004, CREDIT NOT ALLOWED FOR BOTH INTA 1200 AND POL 1101.

ARCH 4126
ARCH 4335
ARCH 4770
CP 4010
CP 4020
CP 4030
CS 4752
ECON 2100
ECON 2101
ECON 2105
ECON 2106
ECON 4160
ECON 4232
ECON 4311
ECON 4340
ECON 4350
ECON 4351
ECON 4355
ECON 4357
ECON 4411
ECON 4421
ECON 4430
ECON 4440
ECON 4450
ECON 4460
ECON 4510
ECON 4610
ECON 4620
ECON 4811
ECON 4812
ECON 4813
ECON 4814
ECON 4815
HIST 2111
HIST 2112
HTS 1031
HTS 1081
HTS 1XXX
HTS 2001
HTS 2002
HTS 2006
HTS 2007
HTS 2009
HTS 2011
HTS 2013
HTS 2016
HTS 2036
HTS 2037
HTS 2061
HTS 2062
HTS 2081
HTS 2082

HTS 2084
HTS 2085
HTS 2803
HTS 2813
HTS 2823
HTS 2XXX
HTS 3001
HTS 3002
HTS 3003
HTS 3005
HTS 3006
HTS 3007
HTS 3008
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HTS 3082
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HTS 3084
HTS 3085

HTS 3086
HTS 3101
HTS 3102
HTS 3803
HTS 3813
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HTS 4015
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HTS 4033
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HTS 4061
HTS 4062
HTS 4063
HTS 4064
HTS 4065
HTS 4081
HTS 4082
HTS 4083
HTS 4084
HTS 4085
HTS 4811
HTS 4812
HTS 4813
HTS 4814
HTS 4815
HTS 4823
HTS 4833
HTS 4843
INTA 1110
INTA 1200
INTA 2030
INTA 2040
INTA 2100
INTA 2210
INTA 2220
INTA 2230
INTA 3010
INTA 3031
INTA 3101
INTA 3102
INTA 3103

INTA 3104
INTA 3110
INTA 3111
INTA 3120
INTA 3121
INTA 3130
INTA 3131
INTA 3203
INTA 3220
INTA 3221
INTA 3230
INTA 3231
INTA 3240
INTA 3241
INTA 3301
INTA 3303
INTA 3304
INTA 3321
INTA 3330
INTA 3331
INTA 3750
INTA 3803
INTA 3813
INTA 4011
INTA 4040
INTA 4050
INTA 4060
INTA 4101
INTA 4121
INTA 4230
INTA 4240
INTA 4241
INTA 4330
INTA 4331
INTA 4332
INTA 4333
INTA 4340
INTA 4803
INTA 4811
INTA 4812
INTA 4813
INTA 4814
INTA 4815
INTA 4823
INTA 4833
POL 1101
POL 2101
PST 4752
PSYC 1101
PSYC 2020
PSYC 2103
PSYC 2210

PSYC 2220
PSYC 2230
PSYC 2240
PSYC 2270
PSYC 2300
PSYC 2400
PSYC 3060
PSYC 4770
PUBP 2012
PUBP 2014
PUBP 3000
PUBP 3010
PUBP 3016
PUBP 3110
PUBP 3201
PUBP 3212
PUBP 3214
PUBP 3600
PUBP 3610
PUBP 4111
PUBP 4120
PUBP 4130
PUBP 4200
PUBP 4211
PUBP 4212
PUBP 4226
PUBP 4314
PUBP 4316
PUBP 4338
PUBP 4410
PUBP 4414
PUBP 4416
PUBP 4512
PUBP 4514
PUBP 4600
PUBP 4609
PUBP 4756
PUBP 4803
PUBP 4811
PUBP 4812
PUBP 4813
PUBP 4814
PUBP 4815
PUBP 4823
PUBP 4833
PUBP 4843
SOC 1101
SS 1XXX
SS 2XXX
SS 3XXX
SS 4XXX

Students can receive credit for either ECON 2100 or ECON 2101,or for ECON 2105/2106. Students can not receive credit for ECON 2100 and ECON 2101 or for ECON 2100 and ECON 2105/2106 or for ECON 2101 and ECON 2105/2106

EFFECTIVE FALL TERM 2004, CREDIT NOT ALLOWED FOR BOTH INTA 1200 AND POL 1101.

Undergraduate Research courses numbered 2698, 2699, 4698, and 4699 cannot be used to fulfill requirements for Humanities or Social Science.

Core Area F-Courses Related to Degree and Major (eighteen hours)

Area F requirements vary with degree and major.

Constitution and History Requirements

The Georgia law as amended March 4, 1953, requires that before receiving an undergraduate degree all students pass an examination or a comparable course in United States and Georgia history/constitution. Courses that fulfill the United States and Georgia history/constitution requirement are HIST 2111, 2112; POL 1101; PUBP 3000; or INTA 1200. (Credit not awarded for both POL 1101 and INTA 1200.)

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

ROTC Credit

Students may apply a maximum of four hours in basic ROTC courses and six hours in advanced ROTC courses toward meeting the free elective requirements for any degree. Students should begin taking basic ROTC courses during the first term they are enrolled. For further information, see individual curricula for the schools.

Transfer Credit

The basic policy regarding the acceptance of courses by transfer is to allow credit for courses completed with satisfactory grades (*C* or better) at other accredited colleges and universities in the United States and Canada, provided the courses correspond in time and content to courses offered at the Georgia Institute of Technology. Georgia Tech will not accept credit for courses successfully completed at another institution but previously taken at Georgia Tech unless the final grade received at Georgia Tech is a W. The student must request and file an official transcript of transfer courses before the Institute can award credit. Coursework completed at colleges and universities outside the United States and Canada will be evaluated on a case-by-case basis. Transfer credit is not calculated in the Georgia Tech grade point average.

Students may attend another institution as a transient student during terms when not enrolled at Georgia Tech. Students should discuss their course selection with their academic advisor to ensure transferability and applicability toward their degree programs. With the exception of officially sanctioned crossenrolled programs, students are not to be enrolled at Georgia Tech and another institution during the same term without the specific approval of the appropriate curriculum committee.

Transfer Courses with ‘X’ Numbers

Transfer courses for which there is no exact Georgia Tech equivalent will be listed with the numbers 1XXX, 2XXX, etc. Courses so numbered can be used as free electives or may be substituted for Georgia Tech courses at the discretion of the academic unit. Transfer courses with an "X" as the third number of the course (e.g., MATH 15X2) are lacking a component of the Georgia Tech course. These courses, in combination with another Georgia Tech course, may be considered as equivalent for prerequisite checking and degree requirements. Students should seek advisement from their academic unit regarding the use of these courses toward fulfilling degree requirements.

Advanced Standing - Student Rules and Regulations 12B

B. Examinations for Advanced Standing

1. Students who offer satisfactory evidence that they are qualified to do so may receive credit for a course by examination. Such an examination is called an examination for advanced standing.
2. Examinations for advanced standing require the recommendation of the department of instruction in which the course is offered, payment of the appropriate fee, and authorization by the registrar.
3. Examinations for advanced standing will ordinarily be offered during the week of final examinations.
4. A student will not be allowed to take an examination for advanced standing in a given course more than twice.
5. An examination for advanced standing will be reported with an S or U grade. Neither grade will be included in the calculation of the scholastic average.

Advanced Placement

Students entering Georgia Tech may receive college credit based upon their scores on the College Board Advanced Placement (AP) Exams taken in conjunction with designated high school advanced placement classes, SAT II Subject Tests, International Baccalaureate Credit, and/or Georgia Tech Departmental Exams.

Once enrolled at Georgia Tech, students are not allowed to take College Board (Advanced Placement and SAT II), International Baccalaureate or A-Level Examinations for credit. All examinations must be completed prior the student's enrollment date. Students who offer satisfactory evidence that they are qualified to do so may receive credit for a course by examination at Georgia Tech. Such an examination is called an examination for advanced standing.

College Board Advanced Placement Exams

Subject	Course	Hours
American Government & Politics ***	AP Score: 4 or 5 = POL 1101	3
Biology	AP Score: 5 = BIOL 1510	4
Chemistry	AP Score: 5 = CHEM 1310	4
Comparative Politics	AP Score: 4 or 5 = INTA 1200	3
Computer Science (A)	AP Score: 4 or 5 = CS 1301	3
Computer Science (AB)	AP Score: 4 or 5 = CS 1331	3
Economics (Macroeconomics)*	AP Score: 4 or 5 = ECON 2105	3
Economics (Microeconomics)*	AP Score: 4 or 5 = ECON 2106	3
English (Composition & Literature)	AP Score: 4 or 5 = ENGL 1101	3
English (Language & Composition)	AP Score: 4 or 5 = ENGL 1101	3
Environmental Science	AP Score: 5 = EAS 1600	4
French (Language Lvl III or Literature Lvl III)	AP Score: 4 or 5 = FREN 2001 & 2002	6
German (Language Lvl III or Literature Lvl III)	AP Score: 4 or 5 = GRMN 2001 & 2002	6
History (American)	AP Score: 4 or 5 = HIST 2111	3
History (European)	AP Score: 4 or 5 = HTS 1031	3
History (World)	AP Score: 4 or 5 = HTS 1XXX**	3
Mathematics (AB and BC)	AP Score: AB4 or 5 BC3, 4, or 5 = MATH 1501	4
Music (Theory)	AP Score: 3 = MUSI 2600 AP Score: 4 or 5 = MUSI 2600 & 3600	2 4
Physics C: Part I (Mechanics, Calculus Based)	AP Score: 4 or 5 = PHYS 2211	4
Psychology (General)	AP Score: 4 or 5 = PSYC 1101	3
Spanish (Language Lvl III or Literature Lvl III)	AP Score: 4 or 5 = SPAN 2001 & 2002	6

* With a score of 4 or 5 in both macroeconomics and microeconomics, a student could instead elect to receive 3 semester hours of credit for ECON 2100.

** HTS 1XXX represents a 1000-level elective course.

*** Students can not receive credit for both INTA 1200 and POL 1101.

International Baccalaureate

Subject	Higher Level Exam Scores	Credit
Biology	5	4 hours (BIOL 1510)
	6 or higher	8 hours (BIOL 1510 and 1520)
Chemistry	5 or higher	4 hours (CHEM 1310)
Computer Science	5 or higher	3 hours (CS 1301)
Economics	5 or higher	3 hours (ECON 2100)
English	4 or higher	3 hours (ENGL 1101)
European History	4 or higher	3 hours (HTS 2037)
Foreign Language*	5 or higher	6 hours (2001 and 2002)
History of Americas	4 or higher	3 hours (HTS 2XXX**)
Mathematics	4 or higher	4 hours (MATH 1501)
Physics	5 or higher	8 hours (PHYS 2211 and 2212)
Psychology	5 or higher	3 hours (PSYC 1101)

* See **Modern Foreign Language Credit**.

** HTS 2XXX represents a 2000-level elective course.

Departmental Exams

Advanced Placement in Mathematics

If you have taken a high school calculus course and achieved an SAT I mathematics score of 600 or higher, you may take the School of Mathematics’ advanced placement exam in calculus during freshman orientation. This exam is an alternative to College Board Advanced Placement Exams. Pass this and you will receive credit for MATH 1501. You may also be approved for subsequent course exams.

Modern Foreign Language Credit

You may receive humanities credit for courses numbered 2001-2002 in a language if you submit higher level scores of 5 or higher from a certified high school International Baccalaureate program. You will not get credit for high school language study if you are a native speaker of that language or if you have taken freshman-level courses at a college and received transfer credit. To have this elective credit entered on your records, you must ask the School of Modern Languages to submit the appropriate document to the registrar. This credit can apply toward the six-hour humanities/fine arts graduation requirement; no grade is attached to it.

Regents’ Testing Program

To establish eligibility for an undergraduate degree, every student in the University System of Georgia must pass the Regents’ Test, an examination designed to measure proficiency in reading and English composition. Students are invited to take this examination when they have earned ten hours of college credit. Any student accumulating forty-five hours of college credit toward a degree without passing the Regents’ Test must schedule remedial English or reading along with other credit coursework. If a student fails in the first attempt, he or she must repeat the test. Alternative tests of competence and remediation are offered to non-native speakers of English. In addition, alternative tests are offered for students with disabilities documented through the Dean of Students’ Office. Listed below are test scores that can be used to satisfy the Regents' Test requirements.

1. The READING portion of the test can be satisfied with:
    1. SAT Verbal score of 510 or higher
    2. ACT Reading score of 23 or higher
2. The ESSAY portion of the test can be satisfied with:
    1. SAT-I Verbal score of at least 530 and a grade of *A* in English 1101
    2. SAT-I Verbal score of at least 590 and a grade of *B* in English 1101
    3. SAT II English Writing score of 650 or higher
    4. ACT English score of at least 23 and a grade of *A* in English 1101
    5. ACT English score of at least twenty-six and a grade of *B* in English 1101
    6. AP English score of 3 or higher
    7. International Baccalaureate higher-level English score of 4 or higher

Scores must be from a national administration of the SAT or ACT. Scores from institutional SAT or residual ACT tests will not be acceptable for this purpose.

SAT II Subject Tests

Subject	Score	Semester Course	Hours
Chemistry	720	CHEM 1310	4
English	750	ENGL 1101	3

Undergraduate Students Taking Graduate Courses

Seniors with a grade point average of at least 2.7 may schedule graduate courses. In order to do so, the student must obtain permission both from the student's advisor and from the chair of the school offering the course. Credit toward the master's degree for up to twelve hours of courses taken as an undergraduate may be received under the following conditions.

1. The student was in residence at Georgia Tech for at least two semesters before registering for the course(s).
2. The student did not apply credit for the course toward the baccalaureate degree. (See **Graduate Course Option** for special exceptions in certain schools.)

Graduate Course Option

Students completing both the bachelor's and master's in the same discipline at Georgia Tech may use up to six credit hours of graduate-level coursework in the major discipline for both degrees. Recognizing that some master's degree programs do not have a unique undergraduate counterpart program, and that some master's programs are offered by several schools, the term "discipline" in the prior sentence will be broadly interpreted in such cases. To qualify for this option, students must complete the undergraduate degree with a cumulative grade point average of 3.5 or higher and complete the master's degree within a two-year period from the award date of the bachelor's degree. Participating programs are civil and environmental engineering, electrical and computer engineering, engineering science and mechanics, industrial and systems engineering, international affairs, mathematics, mechanical engineering, and polymer, textile, and fiber engineering.

Second Undergraduate Degrees Rules and Regulations 13f

F. Second Undergraduate Degree

1. A student enrolled for a second undergraduate degree shall be classified as an undergraduate student, except that a graduate student wishing to pursue a second undergraduate degree will remain classified as a graduate student. A graduate student, with approval of the major school, may work toward a second undergraduate degree while pursuing a graduate program.
2. To be a candidate for a second undergraduate degree, a student must have the recommendation of the chair of the school concerned and the approval of the Undergraduate Curriculum Committee.
3. To obtain a second undergraduate degree, a student must complete all major required courses for the degree and earn credit for a total of at least thiry-six credit hours in excess of the requirement for any previous degrees earned.
4. All regulations in section XIII apply to students completing second undergraduate degrees.

Five-Year B.S./M.S. Degree Programs

Many schools at Georgia Tech offer five-year B.S./M.S. degree programs that, like the Graduate Course Option, allow eligible students to use up to six credit hours of graduate-level coursework in the major discipline for both degrees. The B.S./M.S. programs typically include research and mentoring components and have their own GPA requirements. More information is available from participating major **schools/colleges**.

Undergraduate Minors At Georgia Tech

Minors are intended to encourage and officially acknowledge the attainment by students of a fair measure of expertise and knowledge in more than one academic field, with the goal of broadening their education.

Undergraduate Minor Guidelines

Minor Catalog Descriptions

1. Aerospace Engineering
2. Architectural History
3. Biology
4. Biomedical Engineering
5. Chinese
6. Cognitive Science
7. Computer Science
8. Earth and Atmospheric Sciences
9. Economics
10. Fiber Enterprise Management
11. French
12. German
13. History
14. International Affairs
15. Japanese
16. Law, Science, and Technology
17. Mathematics
18. Materials Science and Engineering
19. Multidisciplinary Design/Arts History
20. Music

21. Nuclear and Radiological Engineering
22. Performance Studies
23. Political Science
24. Philosophy, Science, and Technology
25. Psychology
26. Public Policy
27. Russian Studies
28. Sociology
29. Spanish
30. Women, Science, and Technology

Undergraduate Academic Common Market

The Academic Common Market (ACM) is an interstate agreement for sharing educational programs and facilities, allowing students to participate in selected programs not offered in their home states without having to pay out-of-state tuition charges. The Southern Regional Education Board (SREB) coordinates the activities of the Academic Common Market for the sixteen participating states, which include Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

One of the primary functions of the Academic Common Market is to assist states in offering together what they cannot offer alone. Programs are added to and removed from the Market on an annual basis in order to reflect the changing needs of participating states. The state of Georgia currently makes program changes once annually during the spring.

For a list of undergraduate degree programs non-Georgia residents may study without having to pay out-of-state tuition, as well as the ACM policies and procedures, visit **www.admiss.gatech.edu/acm** or call the Office of Undergraduate Admission at 404.894.4154.

Center for the Enhancement of Teaching and Learning (CETL)

The Center for the Enhancement of Teaching and Learning (CETL) was founded in 1986 with a mission to assist faculty and teaching assistants in becoming more effective instructors and hence to improve the learning of Georgia Tech students. CETL offers undergraduate courses in Undergraduate Teaching Assistant Preparation, Fundamentals of Tutoring, and Principles of Learning and Teaching, as well as graduate-level courses in Classroom Management, Academic Writing, and Academic Professionalism. For international graduate students and teaching assistants who need to improve their English communication skills, CETL offers courses in conjunction with the Georgia Tech Language Institute. Finally, CETL offers training and assistantships associated with its National Science foundation-(NSF) sponsored Student and Teacher Enhancement Partnership (STEP) program.

All CETL graduate courses may be taken either for audit or pass/fail, and these hours may not be counted toward any degree requirements. No graduate student may take more than two CETL courses in any one semester, and all of these courses require the permission of both the student's home unit and CETL. A non-credit option remains for those students whose home units will not permit the credit version of any of the courses.

Students wishing to enroll in any of CETL's undergraduate or graduate courses must request a permit through the CETL home page (**www.cetl.gatech.edu**). The STEP courses are only open to participants in the STEP program, which has its own application process. Interested students should contact CETL directly.

Courses offered by the Center for the Enhancement of Teaching and Learning (CETL) can be viewed on the **course catalog** .

Division of Professional Practice (Co-op and Internships)

Georgia Tech believes that obtaining relevant, academically related experience is an integral part of the educational process. In order to achieve that, the Division of Professional Practice offers two methods to attain such experience: the Cooperative Education program and the Undergraduate Professional Internship program.

The Cooperative Plan has been offered at Georgia Tech since 1912. It is a five-year program for students who wish to integrate practical experience with theory learned in the classroom. More than 3,000 students currently participate, working full time on alternate semesters at more than 650 employers throughout the United States (as well as numerous international assignments). Accredited by the Accreditation Council for Cooperative Education, it is one of the largest totally optional programs in the country and the highest ranked program among public universities.

The Co-op Plan is available for all engineering majors as well those studying biology, chemistry, mathematics, physics, computer science, management, economics, earth and atmospheric sciences, international affairs, industrial design, building construction, and science, technology, and culture. The academic curricula are identical to those offered to regular four-year students, and co-ops remain on the school rolls while on work periods by registering for the appropriate co-op courses.

Co-op offers the student practical experience and insight into human relations, as well as financial assistance. The work experience co-ops receive is a valuable asset to graduates starting out in their chosen professions. Neither college laboratory experience nor employment during vacations can take the place of organized co-op training. The plan provides, to a substantial degree, the experience most companies require of their employees before promoting them to positions of higher responsibility. Work experience may also assist students who are undecided about their future plans in determining early in their college careers whether they wish to continue in a particular field.

Moreover, daily contact with diverse groups among their fellow employees offers students practical insight into sociology, psychology, economics, and ethics that no textbook can supply. Finally, students receive compensation for their services from the employer. Typically, co-op students can save enough from their earnings to pay for more than half of their school expenses.

Undergraduate professional internships provide practical experience for students who choose not to follow the Co-op Plan. Although internships normally do not provide the depth provided by the Co-op Plan experience, they are an extremely viable way to obtain out-of-classroom experience. Similar to cooperative education, the jobs and the students’ performance are monitored by the Division of Professional Practice to ensure maximum benefit by all parties.

Students in all majors may participate in the internship program and may work any term during the school year. Numerous international internships are also available.

For more information on either program, visit our Web site at **www.profpractice.gatech.edu**,or write to:

Division of Professional Practice
Georgia Institute of Technology
Atlanta, Georgia 30332-0260

Cross Enrollment

A. General

1. Students who are enrolled at Georgia Tech may not receive credit for courses completed at another institution during the same academic term, unless prior permission has been obtained for cross enrollment or concurrent registration, as described in this section.
2. With the approval of the student's major school, a student may schedule courses at any one of the colleges or universities comprising the Atlanta Regional Consortium for Higher Education (ARCHE), if such courses are not available in a particular term at Georgia Tech. A list of participating institutions is available from the Office of the Registrar.
3. Cross enrollment also is permitted among institutions participating in the Georgia Tech Regional Engineering Program (GTREP) and selected institutions in the Regents' Engineering Transfer Program (RETP).
4. All cross enrollment registration activities are performed at the student's home institution.
5. For institutions not participating in cross enrollment, a student must apply in advance for permission to be concurrently registered at both Georgia Tech and the other institution.

B. Eligibility

1. Cross enrollment and concurrent registration are available only to degree-seeking juniors, seniors, and graduate students. Ordinarily students will not be allowed to participate during their first term at Georgia Tech, nor will students be allowed to cross enroll for more than two courses per term. Special rules apply to students participating in the GTREP and RETP programs. Any student seeking an exception to these eligibility requirements should contact the Office of the Registrar.
2. To participate in cross enrollment or concurrent registration, a student must be in good standing during the term when the application is processed.
3. During the term of cross enrollment or concurrent registration, the student must be carrying three or more credit hours at Georgia Tech and be in good standing. The total academic load carried at all institutions combined may not exceed the number of hours for which the student would be allowed to register at Georgia Tech.
4. Cross enrollment and concurrent registration courses must be completed with a *C* or better in order to receive credit for the course. Credits earned under cross enrollment will be handled as transfer credit, but will count as resident credit toward a degree. Credits earned under concurrent registration will be handled as regular transfer credit. Grades received in cross enrollment or concurrent registration courses will not be included in the calculation of the grade point average. No credit will be awarded until an official transcript from the participating institution is received by the Georgia Tech **Registrar's Office**.

Distance Learning

Distance Learning and Professional Education (DLPE) enables the delivery of graduate-level courses throughout the state of Georgia, the nation and the world via the Internet (video-on-demand), DVD, and CD-ROM. Selected courses are available at some locations by video teleconferencing and satellite. The courses can be taken with a degree objective or for professional development. Students applying to a graduate program must meet the same admissions criteria as other degree-seeking students. A Master of Science degree can be earned entirely at a distance in the following:

1. Electrical and Computer Engineering
2. Aerospace Engineering
3. Building Construction and Integrated Facilities Management
4. Civil Engineering
5. Electrical and Computer Engineering
6. Environmental Engineering
7. Health Physics/Radiological Engineering
8. Industrial and Systems Engineering
9. Mechanical Engineering
10. Medical Physics
11. Operational Research

Students at remote sites receive class handouts via e-mail, or the Internet, and on CD-ROMs, DVDs, or videotapes of campus lectures. They communicate with their instructor via the Internet, telephone, computer, fax, and/or e-mail.

Some undergraduate courses are offered to Georgia Tech co-op students on work semester. Undergraduate engineering courses are delivered by video teleconferencing to engineering students at Georgia Tech Savannah and to other units of the University System of Georgia.

For more information, visit **www.dlpe.gatech.edu**, call 404.894.3500, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Language Institute

The Language Institute offers classes in English as a second language to international students and professionals from around the world and the local community and provides academic support for international students in degree programs at Georgia Tech. More than 1,000 students attend the programs offered by the Language Institute every year. These programs include an intensive English program designed to prepare international students for academic work at an American university, evening courses for international students and professionals from on and off campus, summer short courses, and online courses.

For information, visit **www.dlpe.gatech.edu**, call 404.894.2425, or write to:

Language Institute
Georgia Institute of Technology
151 6th Street N.W.
Atlanta, Georgia 30332-0374

Professional Education

Distance Learning and Professional Education (DLPE) coordinates the delivery of non-credit short courses and professional development programs to the public and to corporate clients. Programs are held on campus and at other selected locations in the United States and other countries. Professional education programs can also delivered via distance learning technologies.

Short courses, varying in length from one to five days, are offered throughout the year to assist professionals with acquiring knowledge of different fields and new technologies. Courses are offered on various topics in architecture, engineering and technology, science, health systems, management, economic development, and computing. There are thirty-four certificate programs comprised of sequences of short courses offered in the various topics listed above.

For information, visit **www.dlpe.gatech.edu**, call 404.385.3500, fax to 404.894.7398, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
Global Learning and Conference Center
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Georgia Tech Lorraine

Located in France in the Metz Technopôle, a technology park in the Lorraine region, Georgia Tech Lorraine (GTL) serves as the Georgia Institute of Technology campus in Europe. GTL conducts graduate education in engineering and computer science, has ongoing programs of basic and applied research, and offers continuing education courses.

At GTL, students can pursue regular academic programs of Georgia Tech while immersed in the rich culture of Europe. Instructional programs leading to master's degrees and Ph.D.s in electrical and computer engineering, mechanical engineering, and computer science are available to graduate students throughout the year. In addition, double-degree programs that lead to both a Georgia Tech degree and a diploma from a European university have been developed. Undergraduate summer programs in engineering, humanities, management, and social sciences are offered to any qualified student.

Starting in the fall of 2006, undergraduate students in electrical and computer engineering, mechanical engineering, and computer science who are in their third year of study in 2006-2007 will have the opportunity to participate in the International Plan (IP). Courses specifically designed to fulfill the student's major and IP requirements will be offered on the Lorraine campus.

All instruction at GTL is in English. French language courses are also available to enhance students' experience as well as to enable students to participate in a double-degree program.

GTL operates in a 50,000-square-foot building that houses classrooms, academic and research laboratories, student lounges, conference rooms, and a library, along with faculty and staff offices. Student housing is available for all GTL students. Many student-oriented facilities are available close to the GTL campus, along with the diverse cultural and entertainment resources of the city of Metz.

For more information, contact GTL at 404.894.0076 or +33 387 20 3939. You may also e-mail GTL below.

Georgia Tech Honors Program

The Georgia Tech Honors Program combines the challenging academic standards of one of the finest technological universities in the world with the closer connections between students and faculty one might expect to find in a small, selective college. The goal is to create a lively learning environment in which students and faculty members learn from each other through a common commitment to intellectual inquiry, careful analysis, and the energetic exchange of ideas. To promote and sustain this sort of close engagement between students and faculty, the Honors Program offers several features for students in the first two years of their studies at Georgia Tech, including the following:

1. an Honors Program residence
2. small sections of standard introductory courses
3. a sequence of small, topically oriented seminars
4. informal colloquia
5. a system of careful advising

The International Plan

The International Plan is a challenging and coherent academic program for undergraduates that is designed to develop global competence within the context of a student's major. It is a degree-long program that integrates international studies and experiences into any participating major at Georgia Tech. It helps to prepare Georgia Tech graduates professionally and personally for successful lives in the twenty-first century.

The International Plan is not intended to replace current international programs; it supplements them. Existing study abroad opportunities continue to be offered. It is also not intended to be an add-on to the current degree programs. It is intended to be another curriculum path to earn a degree in which international competence is integrated into the program of study. The plan can be completed within the normal time frame of four years of undergraduate study.

The overarching model for the International Plan has four components:

1. International Coursework: three courses, to include one from each of the following categories
    1. **International relations**
    2. **Global economics**
    3. **A course about a specific country or region**
2. International Experience: Two terms abroad (not less than twenty-six weeks) engaged in any combination of study abroad, research, or internship
3. Second language proficiency: All students in the program are expected to reach at least the proficiency level equivalent to two years of college-level language study. Students who use the language to study, conduct research, or participate in an internship during their international experience are expected to attain a higher level of proficiency. Language proficiency is determined by testing (not course credits).
4. Culminating Course: A capstone course in the major designed to tie the international studies and experiences together with the student's major

Completion of the International Plan is recognized by a designation on the student's diploma indicating completion of the degree with global competence, e.g., "B.S. in Electrical Engineering: International Plan."

For additional information about the International Plan visit **www.oie.gatech.edu/internationalplan**.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe Since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	

HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		

FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		

JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Joint Enrollment Program for High School Students

High school students who have completed tenth or eleventh grade and have academic credentials comparable to those of scholastically superior first-year students at Tech may take courses at Georgia Tech. Courses taken at Georgia Tech will normally be at a level beyond those available in the student's high school. Courses completed at Georgia Tech can be used to satisfy high school requirements and will also carry college credit. Interested students should consult their high school counselor for specific program requirements. Applications for the program are available from the Office of Undergraduate Admission or **www.admiss.gatech.edu/jointenrollment**.

Learning Support

The Office of the Vice Provost for Undergraduate Studies and Academic Affairs (VPUSAA) administers the Learning Support Program. The College of Sciences offers college preparatory courses in mathematics, and the Ivan Allen College of Liberal Arts offers courses in reading and English composition for students who need further preparation before taking credit courses in English, mathematics, and history.

Students who are required by the Institute to take courses in the Learning Support Program will be notified in writing. They must then either test out of the program or register for the required course(s) before they can register for any credit courses that require Learning Support (LS) courses as prerequisites.

Students can test out of taking LS courses by passing the appropriate Georgia Collegiate Placement Exams (GCPEs) administered before the beginning of each semester through the Office of the VPUSAA. Students who do not pass the appropriate examinations prior to their first semester in residence must register for the required LS courses. Students must pass all required LS courses and the appropriate GCPEs within their first three semesters in residence in order to register for any further coursework. No more than twenty hours of degree credit work may be earned prior to exiting Learning Support.

In addition to those students who are required by the Institute to take LS courses, any student who desires further preparation may register for one or more courses. LS courses are not prerequisites to credit courses when taken on this elective basis.

LS courses are offered on a pass/fail basis and may not be counted as hours toward graduation.

NOTE: *Figures below the course number and name signify the number of class hours per week, the number of laboratory hours per week, and the semester-hour credit earned for the completed course, respectively.*

LEARNING SUPPORT

LS 0198. Reading Skills

3-0-3
Development of reading comprehension and speed, vocabulary, and study skills. Review of grammar and usage.

LS 0298. English Skills

3-0-3
Development of basic skills used in writing the sentence, paragraph, and short essay. Development of reading speed.

LS 0398. Mathematical Skills

3-0-3
Intensive review of arithmetic and algebra skills. Development of mathematics study skills.

Multidisciplinary and Certificate Programs

Multidisciplinary Programs in the College of Engineering and Certificate Programs in the College of Sciences, the Ivan Allen College of Liberal Arts, and the College of Management offer students in good standing an opportunity to broaden their areas of expertise or acquire skills or information beyond their major degree requirements. Students interested in pursuing these programs should consult with their major school advisors.

Pre-Professional Programs

Georgia Tech degree programs offer a well-balanced basic education in addition to outstanding training in the chosen field. As such, they provide an excellent basis for subsequent study of medicine, dentistry, veterinary medicine, or law. These professional programs typically require a limited number of courses in specific areas, which, if not required as a part of the student's Georgia Tech degree program, may be included as electives. Each academic department has Pre-Professional advisors who advise students in structuring their programs of study to include the necessary courses to qualify for admission to professional school.

Georgia Tech has elected not to have majors designated as premedicine, predentistry, or prelaw. This approach to Pre-Professional education has two major advantages. First, students who elect not to enter professional school upon graduation are prepared for alternative careers immediately. Second, students who do continue to professional school have backgrounds that often provide them with unique opportunities within their selected professions. Examples include medical research, development of medical devices and apparatus, patent law, or the legal aspects of design and construction.

Professional schools typically admit students with strong academic credentials, a well-balanced education, good communication skills, and a broad range of experiences. With the appropriate selection of elective courses, most majors at Georgia Tech provide suitable preparation for professional school in any area. No specific major offers an obvious competitive advantage in assuring admission to professional schools. The best choice of major is usually the one in which the student has the greatest inherent interest.

PRESIDENT's SCHOLARSHIP PROGRAM

The President's Scholarship is Georgia Tech's premier merit-based scholarship. Recipients are selected from the top applicants for admission to Georgia Tech, based on demonstrated excellence in academic and leadership performance. From the applicant pool, students selected as semifinalists will submit teacher recommendations and be interviewed. The top semifinalists will be named finalists and invited with their parents to campus for an interview and information weekend in March. Current Georgia Tech students, transfer students, and international students are not eligible.

Each year, approximately sixty incoming freshmen receive President's Scholarships, which are renewable for up to four academic years, contingent upon honors-level performance and continued leadership development as evidenced by involvement in campus or community activities. Awards for students who entered in fall 2005 were worth up to a full ride, including tuition, room and board, books, fees, and personal expenses. See the Web page below for more information on stipends. Amounts for future years may change.

To be considered, a student must be a U.S. citizen or permanent resident, apply as an incoming freshman, and submit the Georgia Tech Application for Freshman Admission, along with the application fee, with a postmark no later than October 31 of the senior year.

For more information, contact the President's Scholarship Program at 404.894.1615, via e-mail below, or via the Web at **www.psp.gatech.edu**.

Undergraduate Research Opportunities Program

The Undergraduate Research Opportunities Program (UROP) facilitates research experiences for undergraduates across all disciplines. UROP creates initiatives to encourage students to participate in the knowledge creation and research enterprise with Georgia Tech's world-class faculty. Students can participate in laboratory, scientific, or computing research, or be involved in new discoveries in literature, social sciences, architecture, or business. Undergraduate students can participate in part-time or full-time research for course credit or pay. Opportunities are available Institute-wide, within specific colleges and schools, or in interdisciplinary settings. Additional opportunities include the President's Undergraduate Research Awards (PURA), Research Option, spring symposia, and research best practices workshops and training sessions.

For information on how to participate, visit **www.undergradresearch.gatech.edu**.

The Research Option

Undergraduate research offers students a unique opportunity to apply knowledge in a meaningful, real-world context to solve problems and explore issues no one has ever addressed before. Students doing undergraduate research also have the chance to develop deeper relationships with faculty and graduate students, and to add a resumé item that will make them stand out to both graduate schools and potential employers.

The research option offers students the opportunity for an in-depth research experience. While the exact requirements for a research option vary by academic unit, students typically take the following steps:

1. Complete at least nine units of undergraduate research.
    1. Over at least two, preferably three terms.
    2. Research may be for either pay or credit (specific option plans differ by department).
        1. For research for pay to count towards Research Option, you must register for an audit-only class (2698 or 4698 in most but not all academic units).
2. Take the class LCC 4700 Writing an Undergraduate Thesis or equivalent during the thesis-writing semester.
3. Write an undergraduate thesis/report of research on their findings.

For more information and a list of participating schools, visit **www.undergradresearch.gatech.edu**.

ROTC

Georgia Tech offers three voluntary ROTC programs: Army, Navy, and Air Force.

Depending on the student's major, Basic and Advanced ROTC classes count as a portion of elective credit. (Students may apply a maximum of four hours in Basic ROTC courses and six hours in Advanced ROTC courses toward meeting the free elective requirements for any degree.) Consult specific colleges to determine the amount of hours that will count toward a degree. After earning a baccalaureate degree and completing the Advanced ROTC courses for any of the three services, a student may receive a commission as an officer in either the reserve or active forces.

Students accepted into the program earn more than just money for a college degree. Cadets and midshipmen receive training and experience in the one quality which is always in great demand: Leadership.

Summer Language Program

The School of Modern Languages offers special summer immersion programs in China, France, Germany, Japan, Mexico, and Spain. These intensive programs in Languages for Business and Technology (LBAT) consist of six to eight weeks of study abroad in which classroom lessons in business, culture, and technology are combined with fieldwork, cultural events, excursions, and visits to area businesses, all conducted in the target language. The professional visits provide students with firsthand experience of business life, the protocols and strategies of business transactions, and a heightened awareness of the current issues facing the economy of the host country. The LBAT experience offers a unique opportunity for rapid growth in proficiency, to build a deeper appreciation for the cultures and lifestyle patterns of other peoples, and to make lifelong social and professional contacts.

Students will earn nine semester hours at the 3000 level (or twelve hours in Spanish when combining Mexico-six hours-and Spain-six hours). These credits count toward a certificate, a minor, or joint majors offered by the school of Modern Languages with the School of International Affairs or the School of Economics. Program costs vary according to the country visited and the length of the program. In cooperation with Kennesaw State University, the school of Modern Languages offers a similar immersion program in China. The HOPE scholarship applies. See **www.modlangs.gatech.edu** for more information.

Dual Degree Program

Under the Dual Degree Program, students attend the participating Dual Degree school for three years and then come to Georgia Tech for approximately two years. Students participating in the Dual Degree Program may seek a degree from any undergraduate degree-granting program in the College of Engineering. Upon completion of the program, the student receives a bachelor's degree from the first school and a bachelor's degree in one of the engineering disciplines at Georgia Tech.

Participating in the Dual Degree Program are many of the schools in the University System of Georgia, including Morehouse College, Spelman College, Clark Atlanta University, and other traditionally black colleges and predominantly women's colleges in the Southeast. For additional information on either of these programs, contact the College of Engineering at Georgia Tech or the Regents' Engineering Transfer Program (RETP) or Dual Degree coordinator at a participating RETP or Dual Degree institution.

Regents’ Engineering Transfer Program

The Regents' Engineering Transfer Program (RETP) is a cooperative program between Georgia Tech and fourteen colleges in the University System of Georgia:
Albany State University
Armstrong Atlantic State University
Columbus State University
Dalton State College
Gainesville College
Georgia Perimeter College
Georgia Southern University
Macon State College
Middle Georgia College
North Georgia College and State University
Savannah State University
Southern Polytechnic State University
State University of West Georgia
Valdosta State University

For the first two years, students in this program attend one of the participating institutions, where they take all of the mathematics and science and many of the engineering courses required in the first two years of the Georgia Tech engineering curricula. Upon successful completion of the RETP requirements at the RETP institution, students are admitted to Georgia Tech to work toward completion of a Bachelor of Science in Engineering degree.

By enrolling in RETP, students may attend a college close to home, thereby decreasing the cost of their education and easing the adjustment to college life. At the same time, RETP students enjoy many of the advantages of Tech students: they have equal access to engineering majors at Tech, they can participate in the co-op program, and they are invited to the Tech campus once a year for campus tours, information sessions, and meetings with advisors in their engineering majors.

Graduate Information

The faculty of the Georgia Institute of Technology grants advanced degrees in engineering, science, management, computing, architecture, city and regional planning, public policy, and other technology-related areas. The goals for graduate studies and research are to establish an educational environment that will strengthen students' personal and professional development, to encourage students and faculty to vigorously pursue the discovery and generation of new knowledge through research, to investigate ways of applying such knowledge innovatively for the benefit of society and humanity, and to foster the development of new tools, objects, and ideas.

Students whose interests and aptitudes lead them beyond the limits of the traditional undergraduate curriculum may broaden their knowledge of a given field and pursue independent inquiry through graduate study. A graduate education is of particular benefit to students interested in careers in research, management development, design, or consulting; to those who aspire to formulate and administer policy; and to those who desire to enter the profession of education.

Graduate Student Work Loads

Full-time students must be enrolled for at least twelve credit hours on a letter grade or pass/fail basis. As an exception, the advisor and school chair may allow up to three hours out of the minimum twelve to be taken on an audit basis in fall and spring semesters; in summer semesters, the advisor and school chair may allow up to six hours out of the twelve minimum to be taken on an audit basis. Hours in excess of the required twelve may be taken on any basis. Full-time students working exclusively on thesis research should be registered for eighteen or more hours of 7000- or 9000-level courses (Master's or Doctoral Thesis) in fall and spring semesters, and for up to sixteen hours during summer semesters.

The maximum load for graduate students in good standing is twenty-one hours in fall/spring and sixteen hours in summer. The minimum load is three hours except for the semester of graduation. A student may register for only one hour of Master's or Doctoral Thesis (7000 or 9000) during the semester of graduation. This exception may be used once for each degree.

Students with fellowships, assistantships, traineeships, tuition waivers, or student visas and those assigned to the Institute by the armed forces for the purpose of pursuing a degree are required to enroll full time. Part-time doctoral students engaged in research for their Ph.D.s should register for the number of 9000-level hours consistent with the time they and their faculty advisors spend on the dissertation research.

Graduate Policies and Regulations

The Graduate Committee, with the approval of the Academic Senate, is responsible for establishing academic policy for the graduate programs; however, final authority rests with the Senate. This committee reserves the right to change requirements for degrees as may be appropriate. Students enrolled at the time such changes appear in the catalog have the privilege of following either the regulations stated in the catalog effective the semester in which they enrolled or the regulations in the Catalog that records the change.

This catalog records the Institute-wide policies and regulations that govern the graduate program. Schools may make additional rules concerning their programs and the pursuit of their degrees, but such rules may not contradict Institute policies and regulations.

Transfer of Credit

A student may not apply for transfer credit until after matriculation at Georgia Tech. The courses to be transferred would typically be those appearing on the approved program of study form for the master's degree. A doctoral student normally does not request transfer credit. The rules relative to and the process for obtaining transfer of credit for graduate-level courses are as follows:

1. A student in a master's degree program requiring fewer than thirty-three semester credit hours may receive up to six hours of transfer credit for graduate-level courses taken at an accredited institution in the United States or Canada, or at a foreign school or university that has a signed partner agreement with Georgia Tech Lorraine, and not used for credit toward another degree. A student in a master's degree program requiring thirty-three semester credit hours or more may receive up to nine hours of transfer credit for graduate-level courses taken at an accredited institution in the United States or Canada, or at a foreign school or university that has a signed partner agreement with Georgia Tech Lorraine, and not used for credit toward another degree. The student must supply a current transcript for this evaluation.
2. To obtain transfer of credit, the student must complete the following procedure:
    1. The student will confer with the graduate advisor to ascertain whether the courses to be transferred are a logical part of the student's graduate program;
    2. If the courses are appropriate, the student will deliver to the school that teaches such courses a copy of the current transcript, necessary descriptive materials including catalog descriptions, and textbooks used for evaluation. The faculty of the appropriate school will determine the equivalent Georgia Tech course and the number of credit hours accepted. The faculty member who prepares the transfer credit form should have the school chair cosign it. The school should then send the form directly to the registrar with a copy of the student's Approved Program of Study attached;
    3. If the student wishes to transfer more than the number of hours permitted in paragraph 1), a petition must be submitted to the Institute Graduate Committee including statements of possible justification for the granting of such a petition, transfer credit forms, and the recommendation of the student's school chair.
3. A joint enrollment student may receive graduate credit for up to one-third of the hours required for the degree for graduate courses taken at Emory University or Georgia State University provided that
    1. Georgia Tech does not offer such courses;
    2. the student's advisor and school chair approve the courses in writing in advance; c) and the student passes the courses with a *C* or better. Advance approval is satisfied when the courses appear on the student's proposed Program of Study.
4. A student may not receive transfer credit from universities outside the United States and Canada except if the courses were taken at a foreign school or university that has a signed partner agreement with Georgia Tech Lorraine. In any other case, an international student can obtain credit for courses previously taken but not applied toward another degree by filling out an Examination for Advanced Standing Authorization Request Form, paying the appropriate fee at the Cashier's Office, and passing the examination for advanced standing. The school or college that normally teaches the equivalent course will administer any necessary examinations.

Staff Members

No staff member beyond the rank of instructor in a school may work for a master's degree in that school. No new staff member with the rank of assistant professor in a school may work for a doctoral degree in that school.

Admissions Information

Applicants for the master's program should have received a bachelor's degree from an accredited institution and graduated in the upper half of their class. Students must show evidence of preparation in their chosen field sufficient to ensure profitable graduate study.

Ordinarily, the graduate school admits to the doctoral program only those students who have graduated in the upper quarter of their class.

Prospective students may obtain information and apply for admission via the graduate admissions Web page at **www.gradadmiss.gatech.edu**.

Unless otherwise instructed by the major school/college under the "Degree Programs" listing at **www.gradadmiss.gatech.edu**, the student must submit the online application and all required supporting documentation (see mailing instructions at **www.gradadmiss.gatech.edu**) to the Graduate Admissions Office by June 1, November 1, or March 1 for fall, spring, or summer terms, respectively. Some programs have earlier deadlines, and some programs admit students for the fall term only. Students are advised to check the graduate program of interest in the "Degree Programs" listing at www.gradadmiss.gatech.edu before applying. It is strongly recommended that international students submit their materials at least six months before the proposed registration date. Students applying for admission with financial assistance for any term are strongly advised to submit their materials by February 1 of the preceding academic year.

Graduate Record Examinations (GRE)

Official GRE general test scores are generally required by all graduate programs with the exception of the MBA, Global Executive Master of Business Administration, and the Executive Management of Technology programs, which require official Graduate Management Admission Test (GMAT) scores. In addition, official GRE subject test scores are required for applicants to the College of Computing and the Schools of Chemistry and Biochemistry and Mathematics. Test scores must be reported directly to the Institute by the testing agency in order to be considered official. Self-reported scores or photocopies are not considered official scores.

Information concerning these tests can be obtained from Graduate Record Examinations, Educational Testing Service, Box 6000, Princeton, New Jersey 08541-6000, or **www.gre.org**.

General information on the GMAT is available from Educational Testing Service, Box 966, Princeton, New Jersey 08540, or **www.gmac.com**. On-campus applicants may pick up GRE information from the Graduate Admissions Office and GMAT information from the College of Management.

Orientation - New Students

During the week preceding first registration, each new student should plan to attend the Institute's orientation session. Information will be posted on the Graduate Admissions Web site at www.gradadmiss.gatech.edu. In some cases, individual programs will also hold program orientations. New students should plan to attend both the Institute and the program orientation as the same information is not covered in these separate sessions. In addition, they should consult with the graduate coordinator of their major schools to prepare a plan of study and to receive instructions regarding registration procedures. Complete instructions on how and when to register can be found at **www.registrar.gatech.edu**.

Note: All new students must submit health forms to Student Health Services before they can register. All new international students must check in with the Office of International Education as soon as they arrive.

Reactivation of Application

Applicants to a Georgia Tech graduate program who do not enter in the term for which they originally applied and subsequently wish to be considered for a later term must reactivate their applications for the new term by written request to the program to which they originally applied. Since the Graduate Admissions Office keeps files on never entered students for one academic year only, students who delay more than one academic year in the reactivation request must reapply and provide a new set of application materials. The number of reactivations per applicant is limited.

Readmission

Students who interrupt the continuity of their graduate programs by not registering for two or more consecutive terms must seek readmission by filing with the registrar a completed Request for Readmission form. Individuals who have received a graduate degree from Georgia Tech and who wish to reenter to receive an additional graduate degree (at the same level or higher) must also request readmission through this process (it is not necessary to file a new application). Readmission forms are available from the **Registrar's Office**. For more information, see **Rules and Regulations**.

Students who have been out two or more terms are required to obtain a Tuberculosis Screening form signed, dated, and addressed by a medical practitioner. Please refer to **www.health.gatech.edu/main/10_new_students/** for a form to download. Depending on how long you have been out of school, you may be required to have additional immunizations. Should you have additional questions regarding your immunizations, e-mail the Health Center by clicking below. You must satisfy all immunization requirements prior to registration.

TOEFL for International Students

All international students from countries in which English is not the primary native language must take the Test of English as a Foreign Language (TOEFL). Since the results of this test constitute part of the material reviewed for admission to graduate study at Georgia Tech, students must arrange to have the Educational Testing Service (ETS) send their official scores to the Graduate Admissions Office as early as possible. Official scores must be sent directly from the testing service to the Institute. Self-reported scores or photocopies are not considered official. The minimum score for graduate admission required by Georgia Tech is 550 paper-based, 213 computer-based, or 79 internet-based. Some academic programs require higher scores-see the program(s) of choice in the degree program listing found at **www.gradadmiss.gatech.edu** to determine the minimum scores required by each program.

Students who wish to take the TOEFL may obtain more information and materials at www.toefl.org. Applicants may also acquire copies of the *TOEFL Bulletin of Information for Candidates, International Edition*, and the registration form through the offices of the United States Information Service (USIS), American embassies and consulates, and U.S. educational commissions and foundations in a number of cities outside the United States. In addition, several private organizations distribute the TOEFL Bulletin. These groups include the Institute of International Education (IIE); the African American Institute (AAI); the American Mideast Educational and Training Services (AMIDEAST); and the American-Korean Foundation.

Students who cannot obtain a *TOEFL Bulletin* and registration form locally or via the Web should write well in advance of application to Test of English as a Foreign Language, Box 6151, Princeton, New Jersey, 08541-6151, USA.

Official TOEFL scores must be current within two years-ETS will not report test scores older than two years. Georgia Tech will accept scores in all formats as long as they are reported directly to us by ETS. Therefore, tests taken prior to updates to the test or format changes are acceptable as long as the scores are reported directly to the Institute by the testing service.

Types of Standing

Applicants holding a bachelor's degree in an appropriate field from an accredited institution will be accorded full graduate standing provided their previous work is of sufficient quality to indicate immediate success in advanced study.

If the work of an applicant holding an approved bachelor's degree is deficient in content or quality so that supplemental study or demonstrated ability is necessary, the applicant may be accorded conditional graduate standing.

Students who do not wish to qualify for an advanced degree at Tech, but demonstrate the potential benefits of their participation in advanced study, may gain admission as special non-degree graduate students. Students who are admitted with special non-degree standing for failure to submit official transcripts or for other administrative reasons may apply not more than sixteen semester credit hours taken on special non-degree standing toward a degree.

Graduate students in good standing at other U.S. universities may enroll at Georgia Tech as transient graduate students by filing an application for admission and by providing a letter of verification of good standing status from the registrar of the institution in which they are currently enrolled. Work undertaken in transient standing will not apply, however, toward a Georgia Tech degree.

The undergraduate school, not the graduate school, will admit students working toward a second bachelor's degree.

In addition to full, conditional, and special non-degree graduate standing, graduate students will be classified by academic standing according to their grade point averages: good standing, warning, probation, or drop. For specific information, see **Rules and Regulations**.

The graduate average includes the grades on all courses scheduled by the student after admission to graduate study.

Browse by Master's Degrees

College of Architecture

ARCHITECTURE PROGRAM

Master of Architecture (M.ARCH I)

Master of Architecture (M.ARCH II)

Master of Science with a Major in Architecture

Dual Degree Programs:

Architecture and City and Regional Planning

BUILDING CONSTRUCTION PROGRAM

Bachelor of Science in Building Construction

Master of Science in Building Construction and Integrated Facility Management-IFM Track

Master of Science in Building Construction and Integrated Facility Management-IPDS Track

CITY and REGIONAL PLANNING PROGRAM

Master of City and Regional Planning

Dual Degree Programs:

City and Regional Planning and Environmental Engineering

City and Regional Planning and GSU Juris Doctor degree program

City and Regional Planning and Public Policy

City and Regional Planning and Civil Engineering

City and Regional Planning and Architecture

City and Regional Planning and Civil Engineering

INDUSTRIAL DESIGN PROGRAM

Master of Industrial Design

College of Computing

Master of Science in Bioengineering

Master of Science in Computer Science

Master of Science in Human-Computer Interaction

Master of Science in Information Security

College of Engineering

SCHOOL OF AEROSPACE ENGINEERING

Master of Science in Aerospace Engineering

Master of Science with a Major in Aerospace Engineering

SCHOOL OF CHEMICAL AND BIOMOLECULAR ENGINEERING

Master of Science in Chemical Engineering

Master of Science with a Major in Chemical Engineering

Master of Science in Paper Science and Engineering

Master of Science in Polymers

SCHOOL OF CIVIL and ENVIRONMENTAL ENGINEERING

Master of Science in Bioengineering

Master of Science in Civil Engineering

Master of Science in Engineering Science and Mechanics

Master of Science in Environmental Engineering

Master of Science with a Major in Civil Engineering

Master of Science with a Major in Environmental Engineering

SCHOOL OF ELECTRICAL and COMPUTER ENGINEERING

Dual M.S.E.C.E. with Shanghai Jiao Tong University (SJTU)

Master of Science in Bioengineering

Master of Science with a Major in Electrical and Computer Engineering

GT/EMORY DEPARTMENT OF BIOMEDICAL ENGINEERING

Master of Science in Bioengineering

SCHOOL OF INDUSTRIAL and SYSTEMS ENGINEERING

Master of Science in Health Systems

Master of Science in Industrial Engineering

Master of Science in International Logistics

Master of Science in Operations Research

Master of Science in Quantitative and Computational Finance

Master of Science in Statistics

Master of Science with a Major in Industrial Engineering -Human Integrated Systems Track

SCHOOL OF MATERIALS SCIENCE and ENGINEERING

Master of Science in Materials Science and Engineering

Master of Science in Paper Science and Engineering

Master of Science in Bioengineering

Master of Science in Polymers

Master of Science with a Major in Materials Science and Engineering

SCHOOL OF MECHANICAL ENGINEERING

Master of Science in Bioengineering

Master of Science in Mechanical Engineering

Master of Science in Medical Physics

Master of Science in Nuclear Engineering

Master of Science in Paper Science and Engineering

School of Polymer, Textile, and Fiber Engineering

Master of Science with a Major in Polymers

Master of Science in Polymers-Polymers Material Science Track

Master of Science in Polymers-Polymer Chemistry Track

College of Management

Master of Business Administration

Global Executive Master of Business Administration

Master of Science in Management of Technology

Master of Science in Quantitative and Computational Finance

Ivan Allen College of Liberal Arts

SCHOOL OF ECONOMICS

Master of Science with a Major in Economics

SCHOOL OF HISTORY, TECHNOLOGY, and SOCIETY

Master of Science in History and Sociology of Technology and Science

SCHOOL OF INTERNATIONAL AFFAIRS

Master of Science in International Affairs

SCHOOL OF LITERATURE, COMMUNICATION, and CULTURE

Master of Science in Human-Computer Interaction

Master of Science in Information Design and Technology

PUBLIC POLICY

Master of Science in Public Policy

College of Sciences

SCHOOL OF APPLIED PHYSIOLOGY

Master of Science in Prosthetics and Orthotics

SCHOOL OF BIOLOGY

Master of Science in Applied Biology

Master of Science in Bioinformatics

SCHOOL OF CHEMISTRY and BIOCHEMISTRY

Master of Science in Chemistry

Master of Science in Paper Science and Engineering

SCHOOL OF EARTH and ATMOSPHERIC SCIENCES

Master of Science in Earth and Atmospheric Science

Master of Science with a Major in Earth and Atmospheric Science

SCHOOL OF MATHEMATICS

Master of Science in Mathematics

Master of Science in Quantitative and Computational Finance

Master of Science in Statistics

SCHOOL OF PHYSICS

Master of Science in Applied Physics

Master of Science in Physics

SCHOOL OF PSYCHOLOGY

Master of Science in Human-Computer Interaction

Click here for the official Board of Regents' degree list

The Institute may award degrees with or without designation of the field, based upon the recommendation of the school concerned.

Graduate Course Option

Students completing both the bachelor's and master's in the same discipline at Georgia Tech may use up to six credit hours of graduate-level coursework in the major discipline for both degrees. Recognizing that some master's degree programs do not have a unique undergraduate counterpart program, and that some master's programs are offered by several schools, the term "discipline" in the prior sentence will be broadly interpreted in such cases. To qualify for this option, students must complete the undergraduate degree with a cumulative grade point average of 3.5 or higher and complete the master's degree within a two-year period from the award date of the bachelor's degree. Participating programs are civil and environmental engineering, electrical and computer engineering, engineering science and mechanics, industrial and systems engineering, international affairs, mathematics, mechanical engineering, and polymer, textile, and fiber engineering.

Enrollment Requirements

While students may enroll in the master's degree program upon admission with either full or conditional standing, all conditions must be met and the student's status changed to "full" in order to graduate with the master's degree. Students enrolled for the master's degree must register for at least one semester per year in order for the original requirements for their degree to remain unchanged. In other cases, the school may reevaluate the student's credentials and impose additional degree requirements.

Students who have completed all coursework and are planning to submit a thesis in partial fulfillment of the requirements for a master's degree should register for research hours (MAJR 7000) consistent with a realistic appraisal of the amount of remaining thesis work and required faculty involvement. Students are not eligible to receive thesis guidance during any term for which they are not registered.

Students must normally enroll for a minimum of three hours each semester. Thesis students may enroll for one hour of thesis only in the semester of graduation. The Institute has no residency requirements for the master's degree. See **Requirements for Award of the Master's Degree** for more information.

Program of Study

The student, in conference with the faculty advisor, should prepare a program of study for the master's degree as a guide for planning an academic schedule. In some cases, the student's school may require that the proposed program be submitted to the chair of that school for approval.

The program of study must be completed satisfactorily within six consecutive calendar years and must include, at a minimum, thirty approved credit hours distributed as follows:

With thesis:

1. Minimum course credit hours in major field (a basic field of knowledge, not a department of specialization): 12
2. Minimum course credit hours at 6000 to 9000 level: 12
3. Minimum course credit hours for degree: 18
4. Minimum Thesis hours (7000): 6
5. Total credit hours: 30

Without thesis: (must have approval of school chair)

1. Minimum course credit hours in major field (a basic field of knowledge, not a department of specialization): 18
2. Minimum course credit hours at 6000 to 9000 level: 21
3. Total credit hours: 30

Some schools require more than the minimum credit hours. Refer to specific academic program descriptions for more detailed information.

Other than thesis hours, the student may use only three hours under the **pass/fail designation** in the approved program of study. As a rule, a course may not be counted toward more than one degree.

Undergraduate courses required for graduation in the discipline (designated degree) or discipline-of-origin (undesignated degree) at Georgia Tech may not be applied toward a master's degree. See **Graduate Course Option** for special exceptions in certain schools.

The Master's Thesis

To complete the requirements for the master's degree, the student must submit a master's thesis unless the school chair determines that additional coursework is of more importance in meeting approved objectives.

Students who meet the requirements for the master's degree by completing a combination of coursework and thesis must register for a minimum of six hours of thesis credit. (See **Program of Study**.)

A candidate whose program includes a thesis must present a treatise in which the results of an investigation directed by a member of the faculty of the Institute are set forth in clear, articulate form. The purpose of the thesis is to further educational development by requiring the student to plan, conduct, and report an organized and systematic study of importance.

The *Manual for Graduate Theses*, available at **www.gradadmiss.gatech.edu**, specifies the formatting requirements for the thesis. Information regarding electronic thesis/dissertation submission can also be found at this Web site.

Requirements for Award of the Master's Degree

1. Petition to graduate: To apply for master's degree candidacy, the student must submit to the registrar, during the semester preceding the anticipated final semester of work, the petition for a degree with the Approved Program of Study attached.
2. Approved Program of Study (must accompany petition to graduate): The student's Approved Program of Study must show that course requirements for the master's degree will be satisfied before or during the final semester (see Program of Study).
3. The Approved Program of Study must be successfully completed within a period of no more than six consecutive calendar years.
4. The student must have an overall grade point average of at least 2.7 and satisfy all school academic requirements.
5. The student must have completed satisfactorily any language requirement imposed.
6. The student must have passed any qualifying or comprehensive examinations required by the student's school.
7. The student must be registered for a minimum of three credit hours at all times, except that thesis students may enroll for one hour of MAJR 7000 in the semester of graduation. This reduction may be used only once. Students who have met all requirements for graduation before the last day of registration for the graduation term and who were registered the preceding semester may be eligible for a waiver of enrollment.
8. In addition, the student must have completed any required work outlined at the time of matriculation.

Additional Requirements for Master's Thesis Students

9. The student must submit the thesis topic and committee form to the Graduate Studies Office for approval and make satisfactory progress on the thesis.
10. The student must submit the thesis electronically to the Georgia Tech Electronic Thesis and Dissertation Web site at **http://etd.gatech.edu** and receive final acceptance from the Graduate Studies Office.

Language Requirement

The student's school may require a reading knowledge of one appropriate language.

The Doctoral Degree

The degree of Doctor of Philosophy recognizes demonstrated proficiency and high achievement in research. After adequate preparation, the candidate must successfully complete both comprehensive examinations in his or her academic field and a searching and authoritative investigation of a special area in the chosen field, culminating in a written dissertation.

Browse by Doctoral Degree

College of Architecture

ARCHITECTURE PROGRAM

Doctor of Philosophy with a Major in Architecture

BUILDING CONSTRUCTION PROGRAM

Doctor of Philosophy with a Major in Architecture (Building Construction)

CITY and REGIONAL PLANNING PROGRAM

Doctor of Philosophy with a Major in Architecture (City and Regional Planning)

INDUSTRIAL DESIGN PROGRAM

Doctor of Philosophy with a Major in Architecture (Industrial Design)

DEPARMENT OF MUSIC

College of Computing

Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Computer Science

Doctor of Philosophy in Human-Centered Computing

College of Engineering

SCHOOL OF AEROSPACE ENGINEERING

Doctor of Philosophy with a Major in Aerospace Engineering

SCHOOL OF CHEMICAL AND BIOMOLECULAR ENGINEERING

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Chemical Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF CIVIL and ENVIRONMENTAL ENGINEERING

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Civil Engineering

Doctor of Philosophy with a Major in Engineering Science and Mechanics

Doctor of Philosophy with a Major in Environmental Engineering

SCHOOL OF ELECTRICAL and COMPUTER ENGINEERING

Doctor of Philosophy with a Major in Electrical and Computer Engineering

Doctor of Philosophy with a Major in Bioengineering

GT/EMORY DEPARTMENT OF BIOMEDICAL ENGINEERING

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Biomedical Engineering

SCHOOL OF INDUSTRIAL and SYSTEMS ENGINEERING

Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Industrial Engineering -Optimization Track

Doctor of Philosophy with a Major in Industrial Engineering -Stochastic Systems Track

Doctor of Philosophy with a Major in Industrial Engineering -Manufacturing / Logistics Track

Doctor of Philosophy with a Major in Industrial Engineering -Economic Decision Analysis Track

Doctor of Philosophy with a Major in Industrial Engineering -Applied Statistics Track

Doctor of Philosophy with a Major in Industrial Engineering -Human-Integrated Systems Track

SCHOOL OF MATERIALS SCIENCE and ENGINEERING

Doctor of Philosophy with a Major in Materials Science and Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

Doctor of Philosophy with a Major in Bioengineering

SCHOOL OF MECHANICAL ENGINEERING

Doctor of Philosophy with a Major in Bioengineering

Doctor of Philosophy with a Major in Mechanical Engineering

Doctor of Philosophy with a Major in Nuclear and Radiological Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

School of Polymer, Textile, and Fiber Engineering

Doctor of Philosophy with a Major in Textile Engineering -Polymer Materials Science Track

Doctor of Philosophy with a Major in Textile Engineering -Polymer Chemistry Track

College of Management

Doctor of Philosophy with a Major in Management

Ivan Allen College of Liberal Arts

SCHOOL OF HISTORY, TECHNOLOGY, and SOCIETY

Doctor of Philosophy with a Major in History and Sociology of Technology and Science

SCHOOL OF LITERATURE, COMMUNICATION, and CULTURE

Doctor of Philosophy with a Major in Digital Media

PUBLIC POLICY

Doctor of Philosophy with a Major in Public Policy

College of Sciences

SCHOOL OF APPLIED PHYSIOLOGY

Doctor of Philosophy in Applied Physiology

SCHOOL OF BIOLOGY

Doctor of Philosophy with a Major in Applied Biology

Doctor of Philosophy with a Major in Bioinformatics

SCHOOL OF CHEMISTRY and BIOCHEMISTRY

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Chemistry

Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF EARTH and ATMOSPHERIC SCIENCES

Doctor of Philosophy with a Major in Earth and Atmospheric Science

SCHOOL OF MATHEMATICS

Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Mathematics

SCHOOL OF PHYSICS

Doctor of Philosophy with a Major in Physics

SCHOOL OF PSYCHOLOGY

Doctor of Philosophy with a Major in Psychology-Engineering Psychology

Doctor of Philosophy with a Major in Psychology-Experimental Psychology

Doctor of Philosophy with a Major in Psychology-Industrial/Organizational Psychology

Click here for the official Board of Regents' degree list

The Institute may award degrees with or without designation of the field, based upon the recommendation of the school concerned.

Admission to Candidacy - General Information

Doctoral students customarily apply for degree candidacy after completing at least three semesters of coursework beyond the bachelor's degree.

To qualify for candidacy, students must

1. complete all course requirements (except the minor);
2. achieve a satisfactory scholastic record;
3. pass the comprehensive examination; and
4. submit for approval to the school chair and the **Graduate Studies Office** (on behalf of the graduate dean) a formal statement naming the dissertation reading committee and delineating the research topic.

Upon satisfactory completion of these requirements, Graduate Studies formally admits the applicant to candidacy for the degree on behalf of the graduate dean.

The Comprehensive Exams

The comprehensive examination assesses both general knowledge of the degree area and specialized knowledge of the student's chosen research field. Each school is responsible for scheduling comprehensive examinations at least once a year, in the fall or spring, and for informing students of their scope. A guidance committee appointed by the chair of the school will advise each student in planning a program of study and preparing for the examination, partly through an initial evaluation of the student's background and interests, partly through periodic consultation to evaluate and aid the student's progress.

Thesis Topic

Prior to the student's admission to candidacy, the candidate will present for the approval of the school chair or college dean and the Graduate Studies Office a formal statement naming the student's dissertation advisor and setting forth the topic selected for investigation, the objectives the student hopes to gain, and the steps by which the student proposes to achieve them. The thesis topic must give promise of being either a genuine addition to the fundamental knowledge of the field or a new and better interpretation of facts already known.

Time Limit for Degree Completion

Students must complete all degree requirements within seven years from the end of the term in which they pass the comprehensive examination.

The Dissertation

The dissertation must demonstrate that the candidate possesses powers of original thought, talent for research, and ability to organize and present findings. Dissertations must be submitted electronically via the Georgia Tech Electronic Thesis and Dissertation Web site at **http://etd.gatech.edu**.

The format of the dissertation (in general appearance) must meet the criteria published in the *Manual for Graduate Theses*, which is available at **www.gradadmiss.gatech.edu**. For other format or style questions, students should refer to style manuals appropriate to their disciplines.

The Doctoral Examination

If the dissertation advisory committee finds the dissertation satisfactory, it schedules the candidate for an oral examination on the subject matter for the dissertation and the field in which it lies. An examining committee approved by the Graduate Studies office on behalf of the graduate dean will conduct the examination. The candidate's academic unit should forward the announcement of the oral examination, including the names of the examining committee members, to Graduate Studies at least ten working days prior to the exam.

If a candidate should fail to pass the final oral examination, the examining committee may recommend permission for one additional examination. In the case of failure, the registrar does not receive a report of the examination results.

The Minor Field of Study

In addition to an adequate knowledge of the major field of intended research, the student must demonstrate mastery of some other, smaller body of knowledge-the minor field-preferably outside the student's school. The purpose of the minor is to encourage a wider interest on the part of the student and to provide a broader basis for the evaluation of the student's capabilities.

The minor will normally consist of at least nine semester hours of work in related courses, chosen by the student in consultation with a guidance committee and approved by the Graduate Studies Office on behalf of the graduate dean. These courses should be at the 6000 level or above, but the use of certain 4000-level courses may also be approved. Courses taken at other institutions may be included in the minor. Once the student has satisfactorily completed the minor, the school chair sends a confirmation, accompanied by course grades, to the **Graduate Studies Office** for final approval and recording.

Although the student need not complete the minor as a prerequisite for admission to candidacy, the minor must be completed and approved in order to be cleared for graduation.

Enrollment Requirements

The matriculation requirements are similar to those outlined for the master's degree with the addition of the residency requirement: doctoral students must spend at least two full-time semesters in residence at the Georgia Institute of Technology and ordinarily must complete research for the dissertation while in residence. Under special circumstances, candidates who have met the residency requirement may receive permission to pursue their research in absentia, provided the chair of the appropriate school approves and a faculty member directs the project. In either case, doctoral students working full-time on thesis research should be registered for a full course load of 9000 level dissertation hours each semester.

While no fixed course requirements apply for the doctoral degree, the student's thesis advisory committee may recommend graduate coursework in both a major and a minor field of study. Doctoral students must be registered in the semester of graduation. See **Additional Graduation Requirements** for more information.

Additional Graduation Requirements

In addition to requirements listed elsewhere, the candidate must:

1. Submit a petition for the degree to the **Registrar's Office** during the term preceding the anticipated final term of work. Petition forms are available from the Registrar's Office.
2. Have an overall grade point average of at least 3.0 in order to graduate.
3. Register for a minimum of one hour of dissertation in the term of graduation. This reduction from the normal minimum course load of three hours may be used only once. If all requirements for graduation, including submission of the final approved dissertation, have been completed prior to the last day of registration, and the student was registered for the preceding term, the student may apply for a waiver of the enrollment requirement.
4. Pay the Institute a fee (currently $55) for archiving and distributing the dissertation through UMI Dissertations Publishing prior to the final submission of the completed dissertation to Graduate Studies via the **Electronic Thesis and Dissertation Web site**.

If both the dissertation and the examination are satisfactory and the candidate has completed the requirements of residence, minor field, and any additional school requirements, the **Graduate Studies Office** will certify the candidate as qualified to receive the degree of Doctor of Philosophy.

Language Requirements

The student's school may require a reading knowledge of one or more foreign languages.

Five-Year B.S./M.S.Degree Programs

Many schools at Georgia Tech offer five-year B.S./M.S. degree programs that, like the Graduate Course Option, allow eligible students to use up to six credit hours of graduate-level coursework in the major discipline for both degrees. The B.S./M.S.programs typically include research and mentoring components and have their own GPA requirements. More information is available from participating major schools/colleges.

Graduate Academic Common Market

The Institute participates in the Academic Common Market (ACM) Program managed by the Southern Regional Education Board. By interstate agreement, the Market enables southern states to share academic programs. Residents of the participating states who qualify for admission and gain the approval of their state coordinators may enroll on an in-state tuition basis. The Georgia Tech programs currently participating in ACM are graduate programs in building construction and integrated facility management, architecture, city and regional planning, city planning/architecture joint program; as well as undergraduate programs in nuclear and radiological engineering, and polymer and fiber engineering.

Center for the Enhancement of Teaching and Learning (CETL)

The Center for the Enhancement of Teaching and Learning (CETL) was founded in 1986 with a mission to assist faculty and teaching assistants in becoming more effective instructors and hence to improve the learning of Georgia Tech students. CETL offers undergraduate courses in Undergraduate Teaching Assistant Preparation, Fundamentals of Tutoring, and Principles of Learning and Teaching, as well as graduate-level courses in Classroom Management, Academic Writing, and Academic Professionalism. For international graduate students and teaching assistants who need to improve their English communication skills, CETL offers courses in conjunction with the Georgia Tech Language Institute. Finally, CETL offers training and assistantships associated with its National Science foundation-(NSF) sponsored Student and Teacher Enhancement Partnership (STEP) program.

All CETL graduate courses may be taken either for audit or pass/fail, and these hours may not be counted toward any degree requirements. No graduate student may take more than two CETL courses in any one semester, and all of these courses require the permission of both the student's home unit and CETL. A non-credit option remains for those students whose home units will not permit the credit version of any of the courses.

Students wishing to enroll in any of CETL's undergraduate or graduate courses must request a permit through the CETL home page (**www.cetl.gatech.edu**). The STEP courses are only open to participants in the STEP program, which has its own application process. Interested students should contact CETL directly.

Courses offered by the Center for the Enhancement of Teaching and Learning (CETL) can be viewed on the **course catalog** .

Graduate Cooperative Plan

Selected students planning to enroll for graduate study at Georgia Tech have the opportunity to participate in a unique cooperative program leading to advanced degrees in participating schools. Two plans are available. One is designed for Georgia Tech undergraduates who plan to continue as graduate students at Tech and includes study-work periods that span both undergraduate and graduate levels. Eligibility is based on academic achievement at Georgia Tech. The second plan is for graduate students whose undergraduate degrees may be from Tech or other institutions.

Degree requirements under this plan are identical to those for all students enrolled at Georgia Tech. The Graduate Cooperative Plan is designed as an enhancement to the educational programs of students working for advanced degrees and offers the benefits of added facilities and opportunities for external stimulation. In addition, students receive compensation for their services from companies that employ them.

Preliminary screening of students occurs at the school or college level. The participating companies select students on the basis of academic credentials and interest areas correlated with company activities. Many participating companies require U.S. citizenship or permanent residency. For students planning to participate both at the undergraduate and graduate levels, the program requires at least two work semesters at the undergraduate level and at least two work semesters at the graduate level. Students planning to participate only at the graduate level are required to work at least two semesters.

Academic credit for co-op work is available if the student, with approval of the major school, pursues research at the company that can be used to satisfy requirements for the thesis or other research paper.

Students interested in applying for admission to the Graduate Cooperative Plan should write:

Graduate Cooperative Program,
Division of Professional Practice,
Georgia Institute of Technology,
Atlanta, Georgia 30332-0260.

Cross Enrollment

A. General

1. Students who are enrolled at Georgia Tech may not receive credit for courses completed at another institution during the same academic term, unless prior permission has been obtained for cross enrollment or concurrent registration, as described in this section.
2. With the approval of the student's major school, a student may schedule courses at any one of the colleges or universities comprising the Atlanta Regional Consortium for Higher Education (ARCHE), if such courses are not available in a particular term at Georgia Tech. A list of participating institutions is available from the Office of the Registrar.
3. Cross enrollment also is permitted among institutions participating in the Georgia Tech Regional Engineering Program (GTREP) and selected institutions in the Regents' Engineering Transfer Program (RETP).
4. All cross enrollment registration activities are performed at the student's home institution.
5. For institutions not participating in cross enrollment, a student must apply in advance for permission to be concurrently registered at both Georgia Tech and the other institution.

B. Eligibility

1. Cross enrollment and concurrent registration are available only to degree-seeking juniors, seniors, and graduate students. Ordinarily students will not be allowed to participate during their first term at Georgia Tech, nor will students be allowed to cross enroll for more than two courses per term. Special rules apply to students participating in the GTREP and RETP programs. Any student seeking an exception to these eligibility requirements should contact the Office of the Registrar.
2. To participate in cross enrollment or concurrent registration, a student must be in good standing during the term when the application is processed.
3. During the term of cross enrollment or concurrent registration, the student must be carrying three or more credit hours at Georgia Tech and be in good standing. The total academic load carried at all institutions combined may not exceed the number of hours for which the student would be allowed to register at Georgia Tech.
4. Cross enrollment and concurrent registration courses must be completed with a *C* or better in order to receive credit for the course. Credits earned under cross enrollment will be handled as transfer credit, but will count as resident credit toward a degree. Credits earned under concurrent registration will be handled as regular transfer credit. Grades received in cross enrollment or concurrent registration courses will not be included in the calculation of the grade point average. No credit will be awarded until an official transcript from the participating institution is received by the Georgia Tech **Registrar's Office**.

Distance Learning

Distance Learning and Professional Education (DLPE) enables the delivery of graduate-level courses throughout the state of Georgia, the nation and the world via the Internet (video-on-demand), DVD, and CD-ROM. Selected courses are available at some locations by video teleconferencing and satellite. The courses can be taken with a degree objective or for professional development. Students applying to a graduate program must meet the same admissions criteria as other degree-seeking students. A Master of Science degree can be earned entirely at a distance in the following:

1. Electrical and Computer Engineering
2. Aerospace Engineering
3. Building Construction and Integrated Facilities Management
4. Civil Engineering
5. Electrical and Computer Engineering
6. Environmental Engineering
7. Health Physics/Radiological Engineering
8. Industrial and Systems Engineering
9. Mechanical Engineering
10. Medical Physics
11. Operational Research

Students at remote sites receive class handouts via e-mail, or the Internet, and on CD-ROMs, DVDs, or videotapes of campus lectures. They communicate with their instructor via the Internet, telephone, computer, fax, and/or e-mail.

Some undergraduate courses are offered to Georgia Tech co-op students on work semester. Undergraduate engineering courses are delivered by video teleconferencing to engineering students at Georgia Tech Savannah and to other units of the University System of Georgia.

For more information, visit www.dlpe.gatech.edu, call 404.894.3500, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Georgia Tech Lorraine

Located in France in the Metz Technopôle, a technology park in the Lorraine region, Georgia Tech Lorraine (GTL) serves as the Georgia Institute of Technology campus in Europe. GTL conducts graduate education in engineering and computer science, has ongoing programs of basic and applied research, and offers continuing education courses.

At GTL, students can pursue regular academic programs of Georgia Tech while immersed in the rich culture of Europe. Instructional programs leading to master's degrees and Ph.D.s in electrical and computer engineering, mechanical engineering, and computer science are available to graduate students throughout the year. In addition, double-degree programs that lead to both a Georgia Tech degree and a diploma from a European university have been developed. Undergraduate summer programs in engineering, humanities, management, and social sciences are offered to any qualified student.

Starting in the fall of 2006, undergraduate students in electrical and computer engineering, mechanical engineering, and computer science who are in their third year of study in 2006-2007 will have the opportunity to participate in the International Plan (IP). Courses specifically designed to fulfill the student's major and IP requirements will be offered on the Lorraine campus.

All instruction at GTL is in English. French language courses are also available to enhance students' experience as well as to enable students to participate in a double-degree program.

GTL operates in a 50,000-square-foot building that houses classrooms, academic and research laboratories, student lounges, conference rooms, and a library, along with faculty and staff offices. Student housing is available for all GTL students. Many student-oriented facilities are available close to the GTL campus, along with the diverse cultural and entertainment resources of the city of Metz.

For more information, contact GTL at 404.894.0076 or +33 387 20 3939. You may also e-mail GTL below.

Interdisciplinary Programs

The Office of the Vice Provost for Research and Dean of Graduate Studies oversees interdisciplinary research centers at Georgia Tech Currently, there are more than twenty centers overseen either solely by the office or jointly between the office and a college. Each center is listed alaphabetically below, along with the director's name and telephone number. For more information on each center, call the number provided, or call the Office of the Vice Provost for Research and Dean of Graduate Studies at 404.894.8884.

Air Resources and Engineering Center (AREC)
Director: Armistead (Ted) G. Russell, 404.894.3079

Biomedical Interactive Technology Center (BITC)
Director: Mark A. Clements, 404.894.4584; Research Director: John W. Peifer, 404.894.702

Center for Experimental Research in Computer Science (CERCS)
Director: Karsten Schwan, 404.894.2589

Center for Human Movement Studies (CHMS)
Director: Robert J. Gregor, 404.894.1028

Center for Nanoscience and Nanotechnology (CNN)
Director: Zhong Lin (Z. L.) Wang, 404.894.8008

Center for Nonlinear Science (CNS)
Director: Predrag Cvitanovic, 404.385.2502

Center for Paper Business and Industry Studies (CPBIS)
Director: Patrick S. McCarthy, 404.894.4914

Center for the Study of Women, Science, and Technology (WST)
Co-director: Mary Frank Fox, 404.894.1818; Co-director: Carol A. Colatrella, 404.894.1241

Georgia Center for Advanced Telecommunications Technology (GCATT)
Director: Nikil S. Jayant, 404.894.7285

Georgia Electronic Design Center (GEDC)
Director: Joy Laskar, 404.894.5268

Georgia Transportation Institute (GTI)
Co-director: Chelsea (Chip) C. White III, 404.894.0235; Co-director: Michael D. Meyer, 404.385.2246

Georgia Water Resources Institute (GWRI)
Director: Aris P. Georgakakos, 404.894.2240

Institute of Paper Science and Technology (IPST)
Director: W. J. (Jim) Frederick Jr., 404.894.2082

Institute for the Study of Matter (ISM)
Director: Uzi Landman, 404.894.3368

Institute for Sustainable Technology and Development (ISTD)

Director: Carol S. Carmichael, 404.894.5676

Interactive Media Technology Center (IMTC)
Director: Mark A. Clements, 404.894.4584; Research Director: W. E. (Ed) Price, 404.894.4195

Manufacturing Research Center (MARC)
Director: Steven Danyluk, 404.894.9687

Microelectronics Research Center (MiRC)
Director: James D. Meindl, 404.894.5101

Parker H. Petit Institute for Bioengineering and Bioscience (IBB)
Director: Robert M. Nerem, 404.894.2768

Physiological Research Laboratory (PRL)
Director: Laura O'Farrell, 404.385.6233; Policy Research Initiative (PRI) Director: Susan E. Cozzens, 404.385.0397

Specialty Separations Center (SSC)
Director: Charles A. Eckert, 404.894.7070

Strategic Energy Initiative (SEI)
Director: Samuel V. Shelton, 404.385.6330

The Tennenbaum Institute (TI)
Director: William B. Rouse, 404.894.2303

The schools of the Georgia Institute of Technology are authorized to offer graduate degrees, develop and administer their own individual programs, and work closely with one another to provide special study and research opportunities for students who wish to pursue a degree with a wider perspective than that presented by a single discipline. Cooperation between academic units and various research centers and the development of informal programs based on areas of faculty interest have resulted in the establishment of interdisciplinary programs in a number of areas, such as computer-integrated manufacturing systems, microelectronics, bioscience and bioengineering, nanotechnology, and sustainability.

The College of Engineering participates in **multidisciplinary programs**.
The College of Computing offers an **interdisciplinary certificate in cognitive science**.
The College of Management participates in **multidisciplinary programs**.
The College of Sciences participates in **Multidisciplinary programs**.

Multidisciplinary and Certificate Programs

Multidisciplinary Programs in the College of Engineering and Certificate Programs in the College of Sciences, the Ivan Allen College of Liberal Arts, and the College of Management offer students in good standing an opportunity to broaden their areas of expertise or acquire skills or information beyond their major degree requirements. Students interested in pursuing these programs should consult with their major school advisors.

Academic Advising

The appointed academic advisor is the key source of information about college. All entering students are assigned an academic advisor depending on their declared majors at Georgia Tech. To find the assigned advisor, please visit www.advising.gatech.edu. Students will meet their assigned advisors at orientation and at regular intervals during their college careers. Advisors welcome questions about different programs and areas.

Academic advisors are the guides through the college experience. They will help to identify the correct major, curriculum, minor, certificates, study abroad, internships, campus resources, and much more.

While the degree requirements are posted on the **Registrar's Office Web page**, it is essential to check in with the assigned advisor at least once a year (if not more) to ensure that requirements are being met and communication lines are open. Also, regular contact with the advisor will enhance students' college experiences and reaching their future goals.

Fellowship Communication Program

The Fellowship Communication Program provides advice and instruction for all students-undergraduate and graduate-as they consider pursuing graduate or professional school, national graduate fellowships, and/or external prestigious scholarships (undergraduate or graduate level).

Students can gain general information from workshops offered throughout the year. Additionally, students can schedule multiple individual appointments to receive specialized advice and instruction, including how to write effective essays required for any graduate fellowship or prestigious scholarship application, how to manage the application process, and how to prepare for prestigious scholarship interviews. Early in their academic career, students are encouraged to attend a workshop and schedule a follow-up appointment to discuss their goals, find out how to get the most out of their career at Georgia Tech, and learn more about fellowship and scholarship opportunities.

Georgia Tech students compete for a variety of external fellowships and prestigious scholarships, that include (1) national graduate fellowships offered by government agencies, private foundations, or corporate entities, such as the National Science Foundation, the Hertz Foundation, the Ford Foundation, Bell Labs, and many others; and (2) prestigious scholarships for undergraduate or graduate study, such as the Rhodes, Marshall, Churchill, Gates-Cambridge, Mitchell, Fulbright, Jack Kent Cooke, Soros, Truman, Udall, Goldwater, and others.

Georgia Tech Honors Program

The Georgia Tech Honors Program combines the challenging academic standards of one of the finest technological universities in the world with the closer connections between students and faculty one might expect to find in a small, selective college. The goal is to create a lively learning environment in which students and faculty members learn from each other through a common commitment to intellectual inquiry, careful analysis, and the energetic exchange of ideas. To promote and sustain this sort of close engagement between students and faculty, the Honors Program offers several features for students in the first two years of their studies at Georgia Tech, including the following:

1. an Honors Program residence
2. small sections of standard introductory courses
3. a sequence of small, topically oriented seminars
4. informal colloquia
5. a system of careful advising

The International Plan

The International Plan is a challenging and coherent academic program for undergraduates that is designed to develop global competence within the context of a student's major. It is a degree-long program that integrates international studies and experiences into any participating major at Georgia Tech. It helps to prepare Georgia Tech graduates professionally and personally for successful lives in the twenty-first century.

The International Plan is not intended to replace current international programs; it supplements them. Existing study abroad opportunities continue to be offered. It is also not intended to be an add-on to the current degree programs. It is intended to be another curriculum path to earn a degree in which international competence is integrated into the program of study. The plan can be completed within the normal time frame of four years of undergraduate study.

The overarching model for the International Plan has four components:

1. International Coursework: three courses, to include one from each of the following categories
    1. **International relations**
    2. **Global economics**
    3. **A course about a specific country or region**
2. International Experience: Two terms abroad (not less than twenty-six weeks) engaged in any combination of study abroad, research, or internship
3. Second language proficiency: All students in the program are expected to reach at least the proficiency level equivalent to two years of college-level language study. Students who use the language to study, conduct research, or participate in an internship during their international experience are expected to attain a higher level of proficiency. Language proficiency is determined by testing (not course credits).
4. Culminating Course: A capstone course in the major designed to tie the international studies and experiences together with the student's major

Completion of the International Plan is recognized by a designation on the student's diploma indicating completion of the degree with global competence, e.g., "B.S. in Electrical Engineering: International Plan."

For additional information about the International Plan visit **www.oie.gatech.edu/internationalplan**.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe Since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	

HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		

FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		

JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

OMED: Educational Services

The Office of Minority Education Development (OMED) is an academic service organization charged with the academic retention and performance of African American, Native American, and Latino/Hispanic students at Georgia Tech. OMED runs bridge, transition, peer-mentor, tutorial, parent, corporate, and intervention programs that are targeted to the above groups; however, these programs are open to all Georgia Tech students. OMED programs have received national recognition and accolades. OMED has served the Georgia Tech community for more than twenty-five years and has helped Georgia Tech become one of the leading producers of engineering degrees awarded to traditionally underrepresented students.

Pre-Professional Programs

Georgia Tech degree programs offer a well-balanced basic education in addition to outstanding training in the chosen field. As such, they provide an excellent basis for subsequent study of medicine, dentistry, veterinary medicine, or law. These professional programs typically require a limited number of courses in specific areas, which, if not required as a part of the student's Georgia Tech degree program, may be included as electives. Each academic department has Pre-Professional advisors who advise students in structuring their programs of study to include the necessary courses to qualify for admission to professional school.

Georgia Tech has elected not to have majors designated as premedicine, predentistry, or prelaw. This approach to Pre-Professional education has two major advantages. First, students who elect not to enter professional school upon graduation are prepared for alternative careers immediately. Second, students who do continue to professional school have backgrounds that often provide them with unique opportunities within their selected professions. Examples include medical research, development of medical devices and apparatus, patent law, or the legal aspects of design and construction.

Professional schools typically admit students with strong academic credentials, a well-balanced education, good communication skills, and a broad range of experiences. With the appropriate selection of elective courses, most majors at Georgia Tech provide suitable preparation for professional school in any area. No specific major offers an obvious competitive advantage in assuring admission to professional schools. The best choice of major is usually the one in which the student has the greatest inherent interest.

Progress Reports

Progress Report grades of "*S*" or "*U*" are issued for all students enrolled in 1000- and 2000-level courses prior to midterm, a Progress Report grade of "*U*" indicates a performance level of "*D*" or lower. These are not permanent grades and never appear on a transcript, but are issued to help students assess where they stand in the class and obtain academic help from the faculty and the many academic resource services available on campus.

Undergraduate Research Opportunities Program

The Undergraduate Research Opportunities Program (UROP) facilitates research experiences for undergraduates across all disciplines. UROP creates initiatives to encourage students to participate in the knowledge creation and research enterprise with Georgia Tech's world-class faculty. Students can participate in laboratory, scientific, or computing research, or be involved in new discoveries in literature, social sciences, architecture, or business. Undergraduate students can participate in part-time or full-time research for course credit or pay. Opportunities are available Institute-wide, within specific colleges and schools, or in interdisciplinary settings. Additional opportunities include the President's Undergraduate Research Awards (PURA), Research Option, spring symposia, and research best practices workshops and training sessions.

For information on how to participate, visit **www.undergradresearch.gatech.edu**.

The Research Option

Undergraduate research offers students a unique opportunity to apply knowledge in a meaningful, real-world context to solve problems and explore issues no one has ever addressed before. Students doing undergraduate research also have the chance to develop deeper relationships with faculty and graduate students, and to add a resumé item that will make them stand out to both graduate schools and potential employers.

The research option offers students the opportunity for an in-depth research experience. While the exact requirements for a research option vary by academic unit, students typically take the following steps:

1. Complete at least nine units of undergraduate research.
    1. Over at least two, preferably three terms.
    2. Research may be for either pay or credit (specific option plans differ by department).
        1. For research for pay to count towards Research Option, you must register for an audit-only class (2698 or 4698 in most but not all academic units).
2. Take the class LCC 4700 Writing an Undergraduate Thesis or equivalent during the thesis-writing semester.
3. Write an undergraduate thesis/report of research on their findings.

For more information and a list of participating schools, visit **www.undergradresearch.gatech.edu**.

Tutoring and Workshops

There are a number of free tutoring services available on campus for students who need extra help or just want to stay on top of class material. Tutoring is offered in the Freshman Experience, on Georgia Tech's Cable TV Channel 20 Tutor Vision, the Office of Minority Development (OMED), Success Programs, and in various schools.

Workshops and Individual Assistance for Academic Success

Georgia Tech has a variety of services to help students achieve their personal and academic goals. Both fall and spring workshops are available on a number of topics in a variety of venues: Counseling Center, Office of Minority Development (OMED), Success Programs, Freshman Experience, and others.

The Office of Undergraduate Studies

The Office of Undergraduate Studies includes the following:

1. Academic Advising
2. Academic Resources
3. Fellowship Communication Program
4. Transfer Student Ombudsperson
5. Undergraduate Research

Community Services

Georgia Tech applies its resources through community services to the needs of the community and provides an outlet for creative individual responses to social problems. The Office of Community Service promotes civic responsibility and service-learning by encouraging student involvement in meaningful and reciprocal service with the community, both locally and globally.

Fraternities and Sororities

Georgia Tech's forty-eight social fraternities and sororities are coordinated by the Office of the Dean of Students in the Division of Student Affairs. The groups offer a variety of activities, opportunities, and services to the Georgia Tech community.

Student Publications and Media

The Student Publications Board and Radio Communications Board oversee the budgeting and operation of the *Technique*, the official student newspaper; the *Blueprint*, the student yearbook; and other student publications, in addition to the operation of the student radio station, WREK 91.1 FM.

Other student publications include the *North Avenue Review*, an open forum magazine; *Erato*, the student literary magazine; and *T-Book*, an online survival guide of Georgia Tech traditions for new students.

Campus Recreation Center

The newly renovated and expanded Campus Recreation Center (CRC) opened in fall 2004. One of the nation's premier recreation centers, the facility includes a 15,000 square foot., state-of-the-art fitness center, thirty-nine-foot climbing wall, indoor track, six basketball courts, five racquetball and squash courts, four studios for aerobics and martial arts, an indoor hockey rink, game room, and outdoor fields for soccer, flag football, lacrosse, and more.

The Aquatic Center, originally built for the 1996 Olympic aquatic events, consists of a fifty-meter competition pool, seventeen-foot-deep diving well, and seating for more than 1,900 spectators. Across the hall, the Helen D. and Vernon D. Crawford pool boasts a 184-foot water slide, current channel, hot tub, six twenty-five-yard lanes, and an outdoor patio.

The CRC also houses Tech's intramural program, which involves nearly half of the Georgia Tech student body in sports ranging from flag football and kickball to volleyball and bowling. Sport clubs offer a more competitive edge, with more than twenty teams competing on the intercollegiate level. Georgia Institute of Technology Fitness (G.I.T. FIT) programs provide more than fifty non-credit classes to CRC members with nominal fees. With group fitness classes, martial arts, personal training, certification and training courses, and instructional classes in swimming, diving, golf, and more, the G.I.T. FIT programs focus on fitness and health education.

Outdoor Recreation Georgia Tech (ORGT), found in the rear of the CRC, exposes the urban campus of Georgia Tech to the outdoor opportunities that Georgia has to offer. Trips are organized throughout the semester in whitewater rafting, kayaking, rock climbing, backpacking, and more. ORGT runs the indoor climbing wall found next to the fitness center and the Wilderness Outpost, which rents equipment for camping, canoeing, and kayaking at reasonable prices.

For more information, please call 404.385.PLAY or visit **www.crc.gatech.edu**.

DramaTech

DramaTech, Atlanta's oldest theater company, produces at least four plays a year, as well as improvisation and musical theater performances. DramaTech uncovers and nourishes the creative talents of Georgia Tech's future engineers, managers, architects, scientists, and leaders talents that might otherwise go undeveloped in the world of calculators, computers, designs, and formulas. DramaTech is both a student organization and a unit of the Ivan Allen College. Although Georgia Tech has no theater department, the director is part of the faculty of the School of Literature, Communication, and Culture. Participation in the theater is open to all students, faculty, staff, and Tech alumni. Students may earn credit for participation in DramaTech through the School of Literature, Communication, and Culture. For more information, call DramaTech at 404.894.3481, or go to **www.dramatech.org**.

Ferst Center for the Arts

The Ferst Center for the Arts serves as a showcase for the presentation of concerts, recitals, lectures, dance, and theater.

Since opening its doors in 1992, the Center has provided a once-in-a-lifetime opportunity for the students of Georgia Tech to experience the finest entertainers in the world at truly affordable prices. Each year, the Ferst Center hosts memorable performances such as violinist Itzhak Perlman, comedienne Kathy Griffin, the Atlanta Ballet, Soweto Gospel Choir, the Hamburg Symphony Orchestra, and renowned international opera companies. The Center not only houses the theater, but also the Richards and Westbrook galleries, located in the foyer of the Center. The galleries feature displays from local and traveling exhibits of fine arts. The James E. Dull Theatre, which is home to DramaTech, is also located within the Center.

The Ferst Center is committed to exploring the links between the arts and technology and serves as a prominent example of Georgia Tech's dedication to excellence and outstanding performance.

Student Center

The Fred B. Wenn Student Center and Penny and Roe Stamps Student Center Commons are located in the heart of the Georgia Tech campus and provide many vital services to Tech students. Governed and operated by students, the Student Center Program Council consists of student-run planning committees that organize and coordinate campus-wide activities and events. The Student Center houses the post office, bowling and billiards facilities, video games, a crafts center, a music listening room, a ballroom, a movie theater, several meeting rooms, a computer lab, lounge and study areas, and a wide variety of dining options. Vans and audio/visual equipment are available for use by student organizations through the Student Center Administrative Office. Also located in the Student Center is the Center for the Arts Box Office, Student Government Association offices, the Student Organizations Resource Center, WREK radio station, a travel agency, a full-service optical center, a hair salon, the campus BuzzCard Center, and ATMs from Wachovia, Suntrust, Bank of America, and Lockheed Credit Union.

The hours of operation for many of the Student Center services vary; however, the Student Center building is open twenty-four hours a day, seven days a week, providing students with a place to meet and study.

Student Government

The Georgia Tech Undergraduate and Graduate Student Government Associations (SGA) enable students to maintain responsible and respected self-government and official institutional involvement in academic and nonacademic affairs. Additionally, Student Government offers free legal advice for all students. For more information, contact the SGA offices in the Student Center Commons at 404.894.2814.

Student Handbook

Numerous extracurricular activities are available for students. For complete information concerning these services, see the *Student Handbook*, available to all students from the Division of Student Affairs.

Student Organizations

Georgia Tech has more than 350 chartered student organizations that offer a variety of activities for student involvement. These organizations are classified in the following categories: honor societies, governing boards, professional/departmental, service, educational, political, cultural/diversity, sport clubs, religious/spiritual, student media, performance, recreation, and fraternities and sororities.

The Student Involvement Center (located on the second floor of the Student Center Commons) works to promote extracurricular involvement and create an environment where student organizations and their leaders and advisors, have the resources to be successful, self-sustaining organizations that provide other students with opportunities for leadership, self-exploration and development of new skills.

Students who get involved are more likely to be happier with their college experience, graduate, and have higher grades than those who do not get involved.

Career Services

Career Services offers a variety of services to help students explore, select, and pursue a meaningful career from helping them choose a major to finding internship and full-time positions. The office provides career counseling and testing; career planning; seminars on job search related topics; mock interviews; resume critiques; internship, part-time, and full-time job listings; salary surveys; recruiting company information; resume referral services; and graduate school information. The Career Library contains information on various career fields, career planning, graduate school, and job search related topics.

Career Services sponsors Career Focus in September, the Georgia Tech Majors Fair in November, and other events throughout the year. All seminars and events are listed on Career Services' Web site at **www.career.gatech.edu**. Campus recruiting for internship and full-time positions takes place during the fall and spring semesters. Approximately 800 employers, representing a substantial number of Fortune 500 corporations, recruit on campus annually.

Visit Career Services in the Bill Moore Student Success Center or online at **www.career.gatech.edu**.

Counseling Center

The Counseling Center has a staff of licensed psychologists and counselors who provide individual, couples, and group counseling for eligible students to address a wide variety of personal, academic, and career concerns. The Center also has a number of trainees (postdoctoral fellows, graduate practicum students), who also provide supervised counseling services through the Center. In addition, the Center provides outreach and consultation programming and services to the Georgia Tech community.

The Center's resource library provides a program of computer-assisted study skills instruction (CASSI-GT) and information about careers through reference books; videos; a computer-assisted decision-making program (Kuder Career Planning System); catalogs from other colleges, business, and graduate schools; and a number of inventories and tests for determining occupational interests and abilities. The library also has a collection of self-help materials for student use.

More information is available at **www.counseling.gatech.edu**.

Office of the Dean of Students

The Office of the Dean of Students, a unit of the Division of Student Affairs, strives to create an environment in which student leadership occurs, tradition and diversity are respected, and learning is enhanced. The Dean's Office recognizes the importance of each individual student, nurtures personal growth, and supports academic pursuits through advocacy, services, and programs. Students of nontraditional age (undergraduates over age twenty-five, graduate students over age thirty, and financially independent students whose lifestyles vary significantly from those of younger students) who would like information regarding campus resources, such as housing and other specific services, may call the Dean's Office for assistance.

Information on other areas within the Office of the Dean of Students can be found in various sections of this catalog. The office is located in 210 Student Services Building. Students may drop in or call 404.894.6367 to schedule an appointment.

Diversity Programs

The Office of Diversity Programs is responsible for fostering a vision of diversity appreciation reflective of the Institute's strategic plan, which enables students from all backgrounds and cultures to thrive and succeed at Tech. The Office provides an institutionalized approach for meeting the cocurricular needs of students by coordinating and planning educational opportunities that enhance interaction and learning across groups. Through intentional programming and training, the Office assists the campus in understanding, appreciating, and celebrating Tech's rich cultural diversity. For additional information, call 404.894.2561 or visit **www.diversity.gatech.edu**.

Nontraditional Student Services

For nontraditional students (undergraduates over age twenty-five, graduate students over age thirty, and financially independent students whose lifestyles vary significantly from those of younger students), the Office of the Dean of Students recognizes the importance of each individual student, encourages personal growth, and supports academic pursuits through advocacy and referral services. For assistance, contact the Office of the Dean of Students at 404.894.6367, or make an appointment to see a dean by visiting **www.deanofstudents.gatech.edu** and completing an intake form.

Women's Resource Center

The Women's Resource Center enhances the performance and personal development of women at Georgia Tech by striving to create a more inclusive and supportive campus environment for women, and by promoting understanding among Georgia Tech's diverse community of women and men. Services and programs provide opportunities to involve female students in all phases of campus life. For additional information, call 404.385.0230 or visit **www.womenscenter.gatech.edu**.

Assistance for Persons with Disabilities

The Access Disabled Assistance Program for Tech Students (ADAPTS) provides accessible programs, services, activities, and reasonable accommodations for students with a disability as defined by section 504 of the Rehabilitation Act of 1973, as amended, and by the Americans with Disabilities Act of 1990. Services are available to ensure that individuals with disabilities have an equal opportunity to pursue education, employment, or other campus programs, activities, or services.

ADAPTS offers self-identified students with permanent or temporary disabilities assistance with registration, accessibility, transportation, parking, housing, counseling, note taking, recorded textbooks, advocacy, test proctoring, referral services, and other needs. ADAPTS promotes disability awareness programs for departmental faculty and staff, as well as the Georgia Tech community.

Students and prospective students who wish to learn more about accommodations for students with disabilities should contact ADAPTS, Student Services Building, Georgia Institute of Technology, Atlanta, Georgia 30332-0285, or call 404.894. 2564 (voice) or 404.894.1664 (TDD), or visit **www.adapts.gatech.edu**. Faculty, staff, and visitors should contact Disability Services in the Office of Human Resources at 404.894.3344 (voice) or 404.894.9411 (TDD).

Academic Accommodations for Students with Disabilities

Reasonable accommodations are provided to self-identified students with disabilities who meet the academic and technical standards requisite to admission or participation in the program of study.

Consideration may be given to the substitution or modification of certain course requirements within the limitations imposed by the accreditation criteria for the degree program in which the student is enrolled, and to the extent that such substitutions or modifications of the course or curriculum do not have a net effect of detracting from the quality of the educational experience implied by the course or curriculum designation. Such substitutions or modifications must be approved by the school chair, department head, or college dean, and the Undergraduate Curriculum Committee and/or the Graduate Committee.

Student Health Center

The Primary Care Center's Hours

(Appointments recommended)
Monday-Friday 8:00 a.m.-6:00 p.m. Full Staff
Sunday 2:00 p.m.-5:00 p.m. Clinic with limited staff for urgent care

Health Promotion Hours

Monday-Friday 9:00 a.m.-5:00 p.m.

Health Services Contact Information

Phone: 404.894.1420 for appointments
Web site: **www.health.gatech.edu**

General Information

Health Services is an ambulatory healthcare clinic that provides medical care and health education for eligible students and spouses. Health Services’ staff consists of general practice, family practice, and internal medicine physicians, as well as nurse practitioners, registered nurses, medical and radiological technologists, pharmacists, and health educators. Specialists in gynecology, psychiatry, and radiology, as well as a registered dietician, are available for consultation for a nominal fee. The Women's Clinic provides care for gynecological problems and preventive care, such as Pap smears. Contraceptive counseling and information on sexually transmitted diseases are also available. Health Promotion's services are available to all Tech students, including computer-assisted health and nutrition assessments, wellness seminars and events, an information resources center, and personal consultations.

Student Health Center

Medical Entrance Form

All students, graduate and undergraduate, must complete the Medical Entrance, Tuberculosis Screening and Certificate of Immunization forms, and mail them to Health Services before registration. Completed forms must be mailed to:

Health Services
Georgia Institute of Technology
740 Ferst Drive
Atlanta, Georgia 30332-0470
Attention: Medical Records Dept.

Student Health Center

Tuberculosis (TB) Screening

All matriculating students must provide documentation of TB screening prior to registration. Failure to do so will prevent registration. For information on required documentation, go to **www.admiss.gatech.edu/images/pdf/Bhealth_forms.pdf**.

Student Health Center

Immunizations

All incoming students must comply with the immunization requirements as listed on the Certificate of Immunization. This may be found on Health Services’ Web page at **www.health.gatech.edu**, along with the Medical Entrance form and Tuberculosis Screening form. All forms must be completed and signed by a healthcare provider.

Student Health Center

Eligibility for Treatment

Students enrolled in classes, co-op students, spouses of students enrolled in classes or the co-op program (if both the student and spouse have paid their health fees), crossenrolled students who have paid their health fee for the semester, and continuing students with a current student I.D. are eligible for treatment, provided the health fee has been paid.

Student Health Center

Terms of Eligibility

Once the health fee has been paid, students/spouses are eligible for services from the date paid through the end of break week for each semester; new students are eligible for services during the break week that precedes the semester they are entering if they can present proof that the fee was paid. Students who have graduated are no longer eligible for care.

Student Health Center

Cost

A semester health fee is automatically assessed to students taking four semester hours or more. All others must pay the health fee at the Health Center or present the Health Center with proof that the health fee has been paid. A $10 late penalty will be assessed if the health fee is paid after the second week of each semester.

Student Health Center

Special Health Considerations

It is the responsibility of all students to notify the Health Center, the School of Applied Physiology, and the Office of Disabled Student Services of any disability that would make participation in swimming, competitive sports, and aerobic training hazardous to their well-being. Any student requesting special consideration because of mental or physical disability should have his or her physician write an explanatory letter, giving full details of the disability and consequent limitations on physical activity, to the medical director of Health Services. This letter must accompany the Medical Entrance form.

Student Health Center

Health and Accident Insurance

Supplemental insurance to cover major illnesses and surgeries, specialist consultations, and diagnostic procedures not available at Health Services should be purchased by all students who are not included in their parents’ or spouse's medical insurance plans. Generally, private hospitals will not admit patients who do not have hospitalization insurance.

Health insurance is mandatory for some students. Please see the information at Health Services’ Web page at **www.health.gatech.edu** regarding mandatory student health insurance and hard waiver.

Department of Housing

The Department of Housing operates a total of 6,789 beds located in campus residential-style traditional rooms, suites, and apartments. Amenities include local telephone service, cable TV, high-speed Internet connectivity, learning centers, tutoring, laundry facilities, and fitness areas. In January 2005, the Department of Housing opened 394 new family apartments in the Tenth&Home family housing facility, which includes a mix of one- and two-bedroom luxury apartments designed to ensure a family's comfort, convenience, and success.

The residence hall community at Georgia Tech is an integral part of a student's total Tech experience. The Residence Life program within the Department of Housing is responsible for all residence hall matters, including student well-being, staffing, programs, policy formulation, and residence hall government advising. In addition, the Department of Housing team includes Community Offices, ResNet computer networking, and the GTCN cable television network. The Department of Housing is committed to providing a comfortable environment that promotes the growth and development of residents and supports the educational mission of the Institute. For more information, refer to the *Residential Living on the Georgia Tech Campus* brochure available at the Housing Office, or visit **www.housing.gatech.edu**.

Office of International Education

The Office of International Education provides comprehensive support for international education in three broad areas: support to international students and scholars, development of study abroad programs and advice to students about study abroad opportunities, and support to faculty, staff, and students to facilitate the internationalization of Georgia Tech. The office supports the internationalization of the curriculum, advocates for programs of study that prepare students to be globally competent, provides opportunities for faculty to acquire international education experiences, and serves the large population of international students at Georgia Tech.

The Office of International Education currently provides services to more than 2,600 international students from more than 75 countries. These students receive assistance in complying with U.S. immigration law, with cross-cultural adjustment, and in negotiating the academic and social environment of Georgia Tech. International student advisors work closely with student organizations and students themselves in helping them to realize their personal and academic goals.

Students enrolled at Georgia Tech who wish to study abroad may choose from a wide range of summer programs as well as semester-length study abroad programs. Such opportunities exist on every continent and in dozens of countries. Students engage in academic programs that allow them to earn credit that can be applied toward their majors. Financial aid and scholarships can be used on approved study abroad programs. More than 850 students elect to participate in study abroad programs each year.

As a leading research institution, Georgia Tech attracts scholars from all over the world. More than 300 visiting scholars are currently engaged with Georgia Tech faculty in cutting-edge research. A few of them also teach courses. These collaborative research activities and the contributions made by these visiting scholars help Georgia Tech maintain its national and international prominence as a technological institution.

The Office of International Education provides faculty with information about a variety of international opportunities, including overseas research/teaching fellowships, short-term overseas faculty study seminars, and funding opportunities for international research and for international revisions of the curriculum. The Fulbright Scholar program is housed at the Office of International Education. Faculty are encouraged to take advantage of the hundreds of teaching and research opportunities available worldwide through this distinguished program. Faculty also receive assistance in developing new overseas summer programs, and in designing other initiatives to support the internationalization of academic programs.

Library and Information Center

The Georgia Tech Library and Information Center houses one of the nation's largest collections of scientific and technical literature. Resources include more than 4 million volumes, more than 1.4 million government documents, more than 3,000 videotapes, a complete collection of U.S. patents, and approximately 2.75 million technical reports. The library receives more than 20,000 current periodicals.

The library, in cooperation with the Office of Information Technology, provides an Information Commons equipped with 100 high-end computer workstations. Georgia Tech faculty, students, and staff have access to more than 250 online databases containing citations, abstracts, newspapers, indexes to journals and conference proceedings, and the full text of 13,000 electronic periodicals. These databases, as well as the library's catalog, are accessed through the Georgia Tech Electronic Library (GTEL)(r) and Galileo, a statewide database service. Gateways to a variety of information resources available on the Internet are provided through GTEL(r). Students, faculty, and staff may use libraries at Emory University, Georgia State University, the University of Georgia, and other local schools via a Georgia Tech ID card.

The library's digital repository, rapidly gathering and serving access to the intellectual output of the campus, currently contains over 6,500 digital items from over 40 components of the campus.

Copiers are available on the main floor of the library. Students may use facilities for group or individual study. The library's information consultants provide training classes for all students in the use of GTEL (r), Galileo, and the Internet. Consultants also are available for advice about individual information needs.

Information Technology and Computing Facilities

The Office of Information Technology (OIT) provides technology leadership and support to Georgia Tech students, faculty, staff, and researchers. OIT serves as the primary source of information technology, cable television networking, and telecommunications services for the Institute. Key information technology services include operating the campus computer network, providing access to national research networks, providing technical support for centralized computer accounts and computing systems, and protecting the integrity of Institute data and administrative computing systems.

OIT has built the campus network architecture to provide very high performance general-purpose connectivity and peering, including Internet2, with services provided over a multigigabit backbone. OIT is responsible for the Southern Crossroads network aggregation point that connects universities and colleges in the Southeast. Georgia Tech also hosts Southern Light Rail, which serves as the anchor in the Southeast for National LambdaRail, a high-speed, optical fiber networking infrastructure designed for advanced research and experimentation.

Centrally managed computer user accounts permit on-campus access to the campus network and Internet, the wireless network, computing labs, and core computing services and resources. Remote access to computing resources is supported for the satellite campuses. Examples of core computing services include e-mail, online software distribution, online library resources, Web course development software, campus Web hosting, the campus Web portal, and associated software for collaboration and communication.

Students living on campus can access the Internet and the campus network from student residences, which are equipped with Internet connection ports and cabling. Students also have access to three general-purpose computing labs on campus. The computing lab in the library has more than one hundred computer workstations, including systems equipped for multimedia projects, and a presentation rehearsal studio.

In addition, academic and research units may operate their own computing labs. The Institute's computational science venue initiative operates a high-performance computing cluster and network emulation facility to support classes and start-up research projects. In conjunction, OIT's Public Access Clustering Environment (PACE) service fosters the acquisition and development of high-performance, parallel, and distributed (grid) computing systems by campus units.

Georgia Tech operates a wireless network for use with laptop computers and other mobile computing devices. The wireless network has wireless access points in and around most campus buildings and walk-up ports in several buildings. Outdoor wireless coverage includes green spaces, pedestrian corridors, and a one-mile corridor along the Tech Trolley route. The wireless network supports guest access through the incorporation of a commercial service.

Technology enhances academic and research activities in more than 250 classrooms, lecture halls, and specialty rooms. These rooms are equipped with desktop computers, video projectors, VCRs, DVD players, document cameras, audio systems, and electric screens. Videoconferencing and streaming media systems are available for teaching and collaboration on the main campus, at satellite campuses, and in distance learning programs.

Georgia Tech administers its own information systems, data repositories, and administrative software systems. The Institute manages information security with campus community education, policy development, technical measures to protect campus resources, and procedures for reacting to events that endanger the Institute's information assets. IT policy development and strategic planning enable Georgia Tech to keep pace with demands for the use and delivery of sustainable services. For more information, visit **www.oit.gatech.edu**.

OMED: Educational Services

The Office of Minority Education Development (OMED) is an academic service organization charged with the academic retention and performance of African American, Native American, and Latino/ Hispanic students at Georgia Tech. OMED runs bridge, transition, peer-mentor, tutorial, parent, corporate, and intervention programs that are targeted to the above groups; however, these programs are open to all Georgia Tech students. OMED programs have received national recognition and accolades. OMED has served the Georgia Tech community for more than twenty-five years and has helped Georgia Tech become one of the leading producers of engineering degrees awarded to traditionally underrepresented students.

Parking and Transportation

Parking registration is conducted online annually from mid-April through mid-June at **www.parking.gatech.edu**. However, due to limited campus parking availability, parking permit registration is not offered to first semester freshmen. Policies and procedures; fees; Trolley and Stinger services; visitor parking; a campus parking map; and other pertinent parking and transportation information may be found at **www.parking.gatech.edu**.

Questions may be directed to Parking and Transportation Services via the E-mail link below or by telephoning 404.385.PARK or 404.385.RIDE.

Special Academic Services

In an effort to assist its students in realizing their full intellectual potential, Georgia Tech sponsors a variety of voluntary programs designed to help the student overcome academic problems.

For assistance within a specific academic discipline, students should contact the appropriate **college office**. Other academic assistance programs are available via the list below:

Advanced Technology Development Center

The Advanced Technology Development Center (ATDC) is the oldest and most experienced university-affiliated technology incubator in the country. It was formed in 1980 by the governor and General Assembly to increase the technology business base in Georgia. ATDC fulfills this mission by assisting in the formation and growth of advanced technology start-up companies, supporting technology commercialization, and attracting technology companies to the state. In 2004, ATDC received the "Excellence in Technology-led Economic Development" award from the Untied States Department of Commerce.

ATDC is headquartered in Technology Square, and also operates the ATDC Biosciences Center in the Ford Environmental Science and Technology Building. ATDC also has facilities in Columbus Georgia, Savannah Georgia, and Warner Robins Georgia. At these locations, early-stage companies enjoy a strong entrepreneurial working environment, access to professional business consulting, contact with university research faculty, and modern office and laboratory facilities. The ATDC also provides companies with access to facilities, personnel, and students in the University System. (www.atdc.org.)

Beyond ATDC, the Georgia Tech VentureLab program helps faculty members and students who wish to commercialize technology developed as part of Georgia Tech's research programs. Venture-Lab helps evaluate the commercial potential of innovations and matches faculty with experienced entrepreneurs who can help form new ventures. In mid-2004, four companies formed in Venture-Lab received a total of more than $6 million in venture capital investment (see **www.venturelab.gatech.edu** for more information).

ATDC is involved in commercializing technology developed as part of Georgia's new Innovation Centers program. The first such center, the Maritime Logistics Innovation Center, is located in Savannah as a collaboration of the Georgia Department of Economic Development, the Georgia Ports Authority, and the University System of Georgia. For more information, visit **www.atdc.org**.

Georgia Tech Research Corporation

Founded in 1937, the Georgia Tech Research Corporation (GTRC) is a state-chartered, not-for-profit corporation serving Georgia Tech as a University System of Georgia-approved cooperative organization. By charter, GTRC "...shall be operated exclusively for scientific, literary, and educational purposes...conduct laboratories, engage in scientific research, and distribute and disseminate information resulting from research..." GTRC is an IRS section 501(c)(3) not-for-profit organization and serves as the contracting agency for all of the sponsored research activities at Georgia Tech. It also licenses all intellectual property (patents, software, trade secrets, etc.) created at Georgia Tech. Additionally, GTRC assists Georgia Tech in obtaining quality research space, enters into long-term leases for specialized research equipment, and conducts other research support programs as requested by the Institute. All funds collected by GTRC are used to support various Georgia Tech research programs requested by the Institute and as approved by the twelve-member board of trustees. GTRC is located on campus at 505 Tenth Street.

Georgia Tech Research Institute

The Georgia Tech Research Institute (GTRI) is a nationally prominent not-for-profit research organization and an integral unit of the Georgia Institute of Technology. GTRI conducts basic and applied research in a number of engineering and scientific fields for a wide variety of customers including federal, state, and local governmental agencies, industry, and private organizations.

Chartered by the Georgia legislature in 1919 and activated in 1934, the GTRI mission is to serve the university, the state, the nation and the world by maturing selected technologies and developing innovative engineering solutions to important and challenging problems of society.

GTRI works closely with Tech's academic colleges, interdisciplinary centers, and the Georgia Tech Enterprise Innovation Institute in areas of research, education, and service. GTRI's vision is to be the most respected university-based applied research institute in the nation.

The staff is composed of engineers, scientists, support staff, and students (undergraduate and graduate). Employees work in eight research laboratories and support groups housed on campus, at the Cobb County Research Facility; and in Huntsville, Alabama. On-site research and business services also take place at GTRI field offices located at Eglin Air Force Base, Florida; Warner Robins, Georgia; Quantico, Virginia; Albuquerque, New Mexico; Dayton, Ohio; Arlington, Virginia; Huntsville, Alabama; and Orlando, Florida. GTRI has additional satellite research locations in Jacksonville, Florida; San Antonio, Texas; San Diego, California; and Tucson, Arizona.

Research programs at GTRI are focused in the areas of systems engineering, full-spectrum sensing, health and environment, and energy. In those categories GTRI has established itself as a leader in acoustics (commercial and defense); aerospace sciences; antennas/electromagnetic environmental effects; commercial product realization; communications/C4ISR; data visualization; database applications; decision support systems; electro-optics; electronic protection; food processing programs; fuel cell technology; human factors; information assurance/warfare; intelligent agents; knowledge management; law enforcement technology; materials science; microelectronics and applications; missile systems; modeling and simulation; navigation; networking; optoelectronics/photonics; radar; safety, health, and environmental technology; signature control and reduction; technology insertion; telecommunications; test and evaluation; and transportation.

One of GTRI's primary goals is to support economic and technological development in Georgia. GTRI promotes economic growth in the state and the Southeast through mutual programs with the Georgia Tech Enterprise Innovation Institute . GTRI operates strong technology transfer programs and offers continuing education courses. It is also home to the state's Agricultural Research Technology Program, which conducts research and technology transfer for the poultry industry, one of Georgia's leading employers.

For additional information, contact the Office of the Vice President and Director, GTRI, Centennial Research Building, Atlanta, Georgia 30332-0801, or call 404.894.3400.

Interdisciplinary Programs

The Office of the Vice Provost for Research and Dean of Graduate Studies oversees interdisciplinary research centers at Georgia Tech Currently, there are more than twenty centers overseen either solely by the office or jointly between the office and a college. Each center is listed alaphabetically below, along with the director's name and telephone number. For more information on each center, call the number provided, or call the Office of the Vice Provost for Research and Dean of Graduate Studies at 404.894.8884.

Air Resources and Engineering Center (AREC)
Director: Armistead (Ted) G. Russell, 404.894.3079

Biomedical Interactive Technology Center (BITC)
Director: Mark A. Clements, 404.894.4584; Research Director: John W. Peifer, 404.894.702

Center for Experimental Research in Computer Science (CERCS)
Director: Karsten Schwan, 404.894.2589

Center for Human Movement Studies (CHMS)
Director: Robert J. Gregor, 404.894.1028

Center for Nanoscience and Nanotechnology (CNN)
Director: Zhong Lin (Z. L.) Wang, 404.894.8008

Center for Nonlinear Science (CNS)
Director: Predrag Cvitanovic, 404.385.2502

Center for Paper Business and Industry Studies (CPBIS)
Director: Patrick S. McCarthy, 404.894.4914

Center for the Study of Women, Science, and Technology (WST)
Co-director: Mary Frank Fox, 404.894.1818; Co-director: Carol A. Colatrella, 404.894.1241

Georgia Center for Advanced Telecommunications Technology (GCATT)
Director: Nikil S. Jayant, 404.894.7285

Georgia Electronic Design Center (GEDC)
Director: Joy Laskar, 404.894.5268

Georgia Transportation Institute (GTI)
Co-director: Chelsea (Chip) C. White III, 404.894.0235; Co-director: Michael D. Meyer, 404.385.2246

Georgia Water Resources Institute (GWRI)
Director: Aris P. Georgakakos, 404.894.2240

Institute of Paper Science and Technology (IPST)
Director: W. J. (Jim) Frederick Jr., 404.894.2082

Institute for the Study of Matter (ISM)
Director: Uzi Landman, 404.894.3368

Institute for Sustainable Technology and Development (ISTD)

Director: Carol S. Carmichael, 404.894.5676

Interactive Media Technology Center (IMTC)
Director: Mark A. Clements, 404.894.4584; Research Director: W. E. (Ed) Price, 404.894.4195

Manufacturing Research Center (MARC)
Director: Steven Danyluk, 404.894.9687

Microelectronics Research Center (MiRC)
Director: James D. Meindl, 404.894.5101

Parker H. Petit Institute for Bioengineering and Bioscience (IBB)
Director: Robert M. Nerem, 404.894.2768

Physiological Research Laboratory (PRL)
Director: Laura O'Farrell, 404.385.6233; Policy Research Initiative (PRI) Director: Susan E. Cozzens, 404.385.0397

Specialty Separations Center (SSC)
Director: Charles A. Eckert, 404.894.7070

Strategic Energy Initiative (SEI)
Director: Samuel V. Shelton, 404.385.6330

The Tennenbaum Institute (TI)
Director: William B. Rouse, 404.894.2303

The schools of the Georgia Institute of Technology are authorized to offer graduate degrees, develop and administer their own individual programs, and work closely with one another to provide special study and research opportunities for students who wish to pursue a degree with a wider perspective than that presented by a single discipline. Cooperation between academic units and various research centers and the development of informal programs based on areas of faculty interest have resulted in the establishment of interdisciplinary programs in a number of areas, such as computer-integrated manufacturing systems, microelectronics, bioscience and bioengineering, nanotechnology, and sustainability.

The College of Engineering participates in **multidisciplinary programs**.
The College of Computing offers an **interdisciplinary certificate in cognitive science**.
The College of Management participates in **multidisciplinary programs**.
The College of Sciences participates in **Multidisciplinary programs**.

Joint CNRS Research Laboratory

As the result of a strategic alliance between the Georgia Institute of Technology and the French Centre National de la Recherche Scientifique (CNRS), a joint GIT/CNRS research laboratory was established at GTL in 1998. The laboratory, the Centre GTL-CNRS Telecom, conducts a unique transatlantic collaborative program of research in telecommunications and related areas. Research faculty and graduate students from Georgia Tech, French universities, and other CNRS laboratories work on joint research projects sponsored by industry and by local and national governments. Initial research programs center on optoelectronic techniques for signal encryption and secure transmission, signal coding for wireless communications, and soliton transmission and wavelength division multiplexing and signal routing in optical fiber transmission links. The program is expanding to include a diversity of research in telecommunications and in the area of integrated sensors and sensor networks, as well as advanced materials. For more information, contact GTL-CNRS Telecom at +33 387 20 3939, send e-mail below, or check the Web site: **www.georgiatech-metz.fr**.

Oak Ridge Associated Universities

Since 1946, students and faculty of the Georgia Institute of Technology have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of ninety-one colleges and universities and a contractor for the Untied States Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, and faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines, including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the ORISE Catalog of Education and Training Programs, which is available at **www.orau.gov/orise/educ.htm**, or by calling either of the contacts below.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs, as well as services to chief research officers. For more information about ORAU and its programs, contact:

Charles L. Liotta
Vice Provost for Research and Dean of Graduate Studies
ORAU Councilor for Georgia Institute of Technology

Monnie E. Champion
ORAU Corporate Secretary
865.576.3306

You may also visit the ORAU Web site at: **www.orau.org**

Skidaway Institute of Oceanography

Located on Skidaway Island near Savannah, Georgia, the Skidaway Institute of Oceanography (SkIO) provides a complex of coastal- and ocean-related educational and research opportunities. School of Biology faculty have laboratory facilities at the Institute. Many SkIO faculty hold adjunct appointments with Tech schools, including Civil and Environmental Engineering, Earth and Atmospheric Sciences, and Biology, and actively participate in graduate research and education. SkIO maintains small boats for local studies and the 92-foot R/V Savannah for conducting ocean research. Other unique coastal research facilities include the Bioremediation and Environmental Research Mesocosms (BERM) facility, the Saltmarsh Ecosystem Research Facility (SERF), a large recirculating flume, and the SkIO library, which is the largest in the state devoted almost exclusively to marine sciences. Areas of faculty expertise at SkIO include chemical, physical, and biological oceanography, marine ecology, and marine geology. Visitor and graduate student housing is available on site, providing convenient access to these facilities.

GEORGIA TECH ADMINISTRATION

PRESIDENT'S OFFICE

G. Wayne Clough
Ph.D.
president

Sue Ann Allen
Ph.D.
executive assistant to the president

James L Fetig
B.S.
assistant vice president
institute communications and public affairs

Andrea Ashmore
B.A.
special assistant to the president; director
institute partnerships

Andrew J. Harris Jr.
M.P.A.
special assistant to the president; director
government relations

PROVOST'S OFFICE

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Ph.D.
provost and vice president for academic affairs

Anderson D. Smith
Ph.D.
vice provost for undergraduate studies and academic affairs

Jack Lohmann
Ph.D.
vice provost for institutional development

Charles L. Liotta
Ph.D.
vice provost for research and dean of graduate studies

Maureen Kilroy
M.S.
assistant dean of graduate studies

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senior vice president

B. E. (Chuck) Donbaugh
B.A.
associate vice president
human resources

Joel E. Hercik
M.B.A.
associate vice president
financial services

Rosalind R. Meyers
C.P.A.

M.B.A.
associate vice president
auxiliary services

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B.S.
associate vice president/associate vice provost
information technology

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M.S.
associate vice president
facilities

Steven G. Swant
M.A.
associate vice president
budget and planning

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Ph.D.
executive director
organizational development

Scott Levitan
M.Arch.
M.S.
executive director
real estate development

Robert N. Clark Jr.
B.S.
director
internal auditing

Randy A. Nordin
J.D.
chief legal advisor
legal affairs

Teresa Crocker
M.A.
director
security and police

Patrick J. McKenna
LL.M.
executive director
affiliated organizations

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B.A.
director

Anthony K. Antoniades
M.B.A.
general manager

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C.P.A.
M.B.A.
associate vice president

Michael Black
B.S.
director
housing

F. Glenn Boyett
director
information technology

Robert Furniss
B.A.
director
parking and transportation

Barbara A. Hanschke
M.B.A.
director of finance

Stephen Johnson
B.S.
project director

Vern Johnson
B.S.
director
dining services

Gerard J. Maloney
B.S.
director
bookstore

Melissa Moore
B.S.
communication officer

James A. Pete
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director
Buzzcard center

Cindy E. Smith
M.D.
director
health services

Richard Steele Jr.
B.ChE.
director
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R.L.A.
associate dean

Sabir Khan
M.Arch.
associate dean

COLLEGE OF COMPUTING

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dean

Merrick L. Furst
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associate dean
undergraduate education and faculty development

Ellen Witte Zegura
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associate dean
research and graduate programs

Maureen S. Biggers
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assistant dean
diversity and special programs

Thomas D. Pilsch
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assistant dean
continuing education

Richard J. LeBlanc Jr.
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Mary Alice Isele
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David Leonard
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computer and network services

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Ph.D.
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Jane G. Weyant
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human resources and administration

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Lee Williams
M.S.
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associate dean for faculty and research and Fuller E. Callaway Chair and professor

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faculty director of E.M.S.M.O.T.
faculty director for information technology, and associate professor

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executive director corporate programs

Daniel L. Stotz
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director executive education

Mary N. McRee
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director M.B.A. career development

Nancy Gimbel
M.A.
director of undergraduate programs

Ann J. Scott
M.B.A.
director
M.B.A. program

Paula Wilson
M.S.
director M.B.A. admissions

Kurt G. Paquette
M.S.M.
chief administrative and financial officer

Dennis G. Saylor
M.B.A.
director of finance and facilities

Hope M. Wilson
M.A.
director college relations and communications

W. Gail Greene
M.S.
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Phil Spessard
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director of development

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Evans M. Harrell
Ph.D.
associate dean

Randall W. Engle
Ph.D.
associate dean

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development

David L. Moore
director
finance

Gerald E. O'Brien
director
facilities

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Marta H. Garcia
B.A.
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vice provost

Nelson C. Baker
Ph.D.
associate vice provost

Karen L. Tucker
director
language institute

William A. Holm
Ph.D.
assistant vice provost

Carolyn Conger
senior director
business and operations

J. Timothy Copeland
M.B.A. director
marketing and sales

Jeffrey Fischer
M.B.A. director
IT support services

Karen L. Tucker
M.A. director
language institute

Gretchen Belgum
B.A.
Registrar

ENROLLMENT SERVICES

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associate vice provost

Randolph W. McDow
M.S.
associate director

Reta Pikowsky
M.Ed
registrar

Candace C. Carson
B.S.
associate registrar

Debbie S. Williamson
M.A.
associate registrar

Ingrid W. Hayes
B.A.
director
undergraduate admission

Daniel J. Easley
M.Ed.
associate director
undergraduate admission

Carol Heller
M.Ed.

associate director
undergraduate admission

Gail W. Potts
B.S.
director
graduate admissions

Marie R. Mons
B.B.A.
director
student financial planning and services

Lisa Mitchem
B.A.
senior associate director
student financial planning and services

Jennifer Mullins
M.A.
associate director
student financial planning and services

FACILITIES

Charles G. Rhode
M.S.
associate vice president

Edward A. Guida
M.S.
director
environmental health and safety

Warren L. Page
M.E.
director
operations and maintenance

Michael H. Patterson
B.A.
director
design and construction

David L. Goldfarb
Ph.D.
director
finance

Charles A. LaFleur
M.S.
director
information technology

GEORGIA TECH ALUMNI ASSOCIATION

Joseph P. Irwin
B.S.
president

John C. Dunn
B.A.
vice president
communications

Allison Hickman
B.S.
C.P.A.

vice president
administration and technical services

Leonard Contardo, Jr.
M.A.
vice president
constituent services

James J. Shea
B.S.
vice president
fundraising and business development

GEORGIA TECH ATHLETIC ASSOCIATION

Dan Radakovich
Director of Athletics

Paul Griffin
senior associate director

Larry New
senior associate director

Bobby Robinson
senior associate director

Jack Thompson
senior associate director

Mollie Simmons-Mayfield
senior associate director

Jim Hall
associate director
development

Phyllis Labaw
associate director
academic services

Eric Ciano
director
player development

Wes Durham
director
broadcasting

Allison M. George
director
communications

W. Scott McLaren
director
marketing, promotions, and ticketing

Paul Parker
director
compliance

Lucius Sanford
director
student-athlete development

GEORGIA TECH RESEARCH CORPORATION

Jilda Diehl Garton
M.S.
associate vice provost and general manager

Barbara J. Alexander
M.B.A.
director
accounting and reports

George G. Harker III
Ph.D.
director
technology licensing

Nicolas F. Perez
M.B.A.
director
operations and services

GEORGIA TECH RESEARCH INSTITUTE

Stephen E. Cross
Ph.D.
vice president and director

David E. Parekh
Ph.D.
deputy director

Charles E. Brown
M.S.
director
business operations

Maj. Gen. George B. Harrison
U.S.A.F. (ret.)
director
strategic initiatives

Janice P. Rogers
director
administration

INFORMATION TECHNOLOGY, OFFICE OF

John K. Mullin
associate vice president/associate vice provost
chief information officer

Ronald R. Hutchins
associate vice provost for research and technology
chief technology officer

James M. O'Connor
executive director

Herbert Baines III
director
information security

Hua-Pei Chen
director
architecture and infrastructure

Linda A. Cabot
director
information technology services

Barbara G. Roper
director
resource management

Lori P. Sundal
director
enterprise information systems

INTERDISCIPLINARY PROGRAMS/RESEARCH CENTERS

Mustaque Ahamad
director, Georgia Tech Information Security Center (CoC/IAC)

Christos Alexopoulos
director, Modeling and Simulation Research and Education Center (CoC/GTRI)

Haskell W. Beckham
director, National Textile Center (CoE)

Melvin L. Belcher Jr.
co-director, Center for International Development and Cooperation (GTRI)

Gisele Bennett
director, Logistics and Maintenance Applied Research Center (GTRI)

Thomas E. Bevan
director, Center for Emergency Response Technology, Instruction, and Policy (GTRI)

Samuel M. Blankenship
director, Space Technology Advanced Research Center (GTRI), and
director, Test and Evaluation Research and Education Center (GTRI)

Ronald A. Bohlander
director, Commercial Product Realization Office (GTRI)

Jay D. Bolter
director, The James and Mary Wesley Center for New Media Education and Research (IAC)

Jean-Luc E. Brédas
co-director, Center for Computational Molecular Sciences and Technology (CoS)

B. David Bridges
director, Southeastern Regional Technology Transfer Center (EDTV)

Karl N. Brohammer
director, Advanced Wood Products Laboratory (CoA)

Leonid A. Bunimovich
director, Southeast Applied Analysis Center (CoS)

Carol S. Carmichael
director, Institute for Sustainable Technology and Development (CoE/VP Research)

Mark A. Clements
executive director,
Interactive Media Technology Center/Biomedical Interactive Technology Center (VP Research)

Carol A. Colatrella
co-director, Center for the Study of Women, Science, and Technology (VP Research/IAC)

Jonathan S. Colton
co-director, Center for Polymer Processing (CoE)

Rickey Cotton
co-director, Center for International Development and Cooperation (GTRI)

Susan E. Cozzens
director, Technology Policy and Assessment Center (CoE/IAC), and
director, Policy Research Initiative (VP Research)

James I. Craig
co-director, Center for Advanced Systems Analysis (CoE)

Predrag Cvitanovic
director, Center for Nonlinear Sciences (CoS/VP Research)

Jiangang (Jim) Dai
director, Center for Applied Probability (CoE)

Steven Danyluk
director, Manufacturing Research Center (CoE/VP Research), and
director, Rapid Prototyping and Manufacturing Institute (CoE)

J. Rick Duke
director, Center for Economic Development Services (EDTV)

Charles A. Eckert
director, Specialty Separations Center (CoE/VP Research)

Leroy Emkin
co-director, Computer-Aided Structural Engineering Center (CoE)

John E. Endicott
director, Center for International Strategy, Technology, and Policy (IAC)

Donna M. Ennis
project director, Georgia Statewide Minority Business Development Center (EDTV)

Charles M. Estes Jr.
director, Traditional Industries Program (EDTV)

Mark Ferguson
coordinator, Pricing & Revenue Management Initiative (CoM)

Mary Frank Fox
co-director, Center for the Study of Women, Science, and Technology (VP Research/IAC)

W. J. Frederick Jr.
director, Institute of Paper Science and Technology (VP Research)

Skolnick Jeffory
director, Center for the Study of Systems Biology

Steven P. French
director, Center for Geographic Information Systems (CoA/GTRI)

Thomas F. Fuller
director, Center for Innovative Fuel Cell and Battery Technologies (GTRI)

Robert Fulton
program manager, Electronic Commerce Resource Center (CoE)

Aris P. Georgakakos
director, Water Resources Institute (CoE/VP Research)

Leonid Germanovich
director, Center for Applied Geomaterials Research (CoE)

Jean-Pierre Goedgebuer
director, Center GTL-CRNS Telecom (CoE)

Arun M. Gokhale
director, USCAR on Structural Case Magnesium Development Project (CoE)

Barry Goodno
director, NSF Mid-America Earthquake Center (CoE)

Marla J. Gorges
director, Southeastern Trade Adjustment Assistance Center (EDTV)

Robert J. Gregor
director, Center for Human Movement Studies (CoS/VP Research)

Eugene F. Greneker III
director, Severe Storms Research Center (GTRI)

Sathyanaraya Hanagud
director, MURI: Multifunctional Energetic Structural Materials (CoE)

H. Mike Harris
director, Phosphor Technology Center of Excellence (CoE/GTRI)

Rigoberto Hernandez
co-director, Center for Computational Molecular Sciences and Technology (CoS)

Nolan E. Hertel
director, Neely Nuclear Research Center (CoE)

H. Wayne Hodges
vice provost, Economic Development and Technology Ventures, and director, Advanced Technology Development Center (EDTV)

Timothy D. Israel
manager, Center for International Standards and Quality (EDTV)

Nikil S. Jayant
director, Georgia Center for Advanced Telecommunications Technology (CoE/VP Research), and
director, Georgia Tech Broadband Institute (CoE)

Eric N. Johnson
director, MURI: Active-Vision Control Systems for Complex Adversarial 3-D Environment (CoE)

W. Steven Johnson
director, Composites Education and Research Center (CoE)

Bernd Kahn
director, Environmental Resources Center (GTRI)

Roozbeh Kangari
director, Construction Resource Center (CoA)

Uzi Landman
director, Center for Computational Materials Science (CoS), and
director, Institute for the Study of Matter (VP Research)

Joy Laskar
director, Georgia Electronic Design Center (VP Research)

Anatoliusz Lesniewski
director, IMAGINE Multimedia Lab (CoA)

Ed Lindsay
director, Economic Development Administrations University Center (EDTV)

Charles L. Liotta
vice provost for Research and dean of Graduate Studies (VP Research)

Meilin Liu
co-director, Center for Innovative Fuel Cell and Battery Technologies (GTRI)

Seth R. Marder
director, Center for Organic Photonics and Electronics (CoE)

Patrick S. McCarthy
director, Sloan Center for Paper Business and Industry Studies (IAC/VP Research)

James H. McClellan
director, Center for Signal and Image Processing (CoE)

David L. McDowell
director, Mechanical Properties Research Laboratory (CoE), and
director, MURI on Multifunctional Energetic Structural Materials (CoE)

John R. McIntyre
executive director, Center for International Business Education and Research (CoM)

James A. McNutt
executive director, Center for Paper Business and Industry Studies (IAC/VP Research)

James D. Meindl
director, Microelectronics Research Center (CoE/VP Research)

Michael D. Meyer
co-director, Georgia Transportation Institute (CoE/VP Research)

Konstantin Mischaikow
director, Center for Dynamical Systems and Nonlinear Studies (CoS)

M. Helena Mitchell
director, Center for Advanced Communications Policy (IAC/VP Research)

Charles W. Mulford Jr.
director, Financial Analysis Lab (CoM)

Brian Murphy
co-director, European Union Center (IAC)

John D. Muzzy
co-director, Center for Polymer Processing (CoE)

Elizabeth D. Mynatt
director, Graphics, Visualization, and Usability Center (CoC)

Robert M. Nerem
director, Center for the Engineering of Living Tissues (CoE), and director, Parker H. Petit Institute for Bioengineering and Bioscience (CoE/VP Research)

Laura O'Farrell
director, Physiological Research Laboratory(VP Research)

Paul A. Ohme
director, Center for Education Integrating Science, Mathematics, and Computing (CoS)

Zack E. Osborne
director, Georgia Tech Procurement Assistance Center (EDTV)

Krishna V. Palem
director, Center for Research in Embedded Systems and Technology (CoE)

John W. Peifer
research director, Biomedical Interactive Technology Center (VP Research)

William E. Price
research director, Interactive Media Technology Center (VP Research)

Hans B. Püttgen
director, National Electric Energy Testing, Research, and Application Center (CoE)

Don Ranly
director, Dental Technology Center (GTRI)

William S. Rees Jr.
director, Molecular Design Institute (CoE/CoS)

Ajeet Rohatgi
director, University Center of Excellence for Photovoltaics Research (CoE)

Catherine L. Ross
director, Center for Quality Growth and Regional Development (CoA)

William B. Rouse
director, The Tennenbaum Institute (CoE/VP Research)

Armistead (Ted) G. Russell
director, Air Resources and Engineering Center (VP Research)

Kenneth H. Sandhage
director, MURI on Genetically Engineered Materials and Micro/Nanodevices (CoE)

Daniel P. Schrage
director, Center of Excellence in Rotorcraft Technology (CoE), and
co-director, Center for Advanced Systems Analysis (CoE)

Karsten Schwan
director, Center for Experimental Research in Computer Systems (CoC/VP Research)

Samuel V. Shelton
director, Industrial Assessment Center (EDTV), and director, Strategic Energy Initiative (VP Research)

C. David Sherrill
co-director, Center for Computational Molecular Sciences and Technology (CoS)

Stephen H. Sprigle
director, Center for Assistive Technology and Environmental Access (CoA)

Weston M. Stacey Jr.
director, Fusion Research Center (CoE)

Christopher J. Summers
director, Phosphor Technology Center of Excellence (CoE/GTRI), and
director, MURI on Intelligent Luminescence for Communication, Display, and Identification (CoE)

David G. Taylor
director, Center for Board Assembly Research (CoE)

Marie C. Thursby
executive director, Technological Innovation: Generating Economic Results (CoM)

Rao R. Tummala
director, NSF-ERC Packaging Research Center (CoE)

Zhong Li Wang, director
Center for Nanoscience and Nanotechnology (CoE/VP Research), and
director, Center for Nanostructure Characterization (CoE)

Katja Weber,
co-director, European Union Center (IAC)

Chelsea (Chip) C. White, III
executive director, The Logistics Institute (CoE),
co-director, Georgia Transportation Institute (CoE/VP Research), and
head, Sloan Trucking Industry Program (CoE)

Kenneth Will
co-director, Computer-Aided Structural Engineering Center (CoE)

Ben T. Zinn
director, NASA URETI on Propulsion and Power (CoE), and
director, University Research Engineering Technology Institute (CoE)

LIBRARIES

Richard W. Meyer
M.A.
M.S.
dean and director

OMED: EDUCATIONAL SERVICES

S. Gordon Moore Jr.
managing partner/director

Willy Barnett
partner
support programs and web development

Neal L. Christian
partner
academic support

Robert M. Hume
partner
data analysis

Jacquline L. Cox
associate partner
office manager

Letitia P. Henderson
associate partner
financial control

PROFESSIONAL PRACTICE DIVISION

Thomas M. Akins
M.B.A.
executive director

Robert W. James Jr.
M.A.
director undergraduate professional internships & graduate co-op

Harold B. Simmons
M.B.A.
M.A.
director cooperative education

Ann Blasick
M.S.M.E
assistant director, cooperative education

Mary K. Fisher
M.S.
assistant director, undergraduate professional internships

Debbie Gulick
M.A.
international practicum coordinator

Kenneth A. Little
M.B.A.
assistant director, cooperative education

Tina L. Payne
B.S.
assistant director, cooperative education

Debra T. Pearson
M.S.
assistant director, cooperative education

Robert P. Rogers Jr.
B.A.
assistant director, cooperative education

Tamara Solomon
M.S.
assistant director, graduate cooperative education

Wayne O. Thompson
M.A.
assistant director, cooperative education

REGISTRAR

Reta Pikowsky
M.Ed
registrar

Candace C. Carson
B.S.
associate registrar

Debbie S. Williamson
M.A.
associate registrar

Craig Womack
M.Ed.
Assistant Registrar

Scott Jacobson
B.S.
web developer

SPONSORED PROGRAMS

Jilda Diehl Garton
M.S.
associate vice provost for research and general manager
GTRC and GTARC

G. Duane Hutchison
M.B.A.
director
sponsored programs

Robert D. Simpkins
B.S.
associate director
sponsored programs

Barbara S. Henry
M.P.A.
director
research compliance
and manager research administration communications
training and technologies

Christopher E. D'Urbano
B.A.
manager
industry contracting

STUDENT AFFAIRS

William D. Schafer
Ph.D., vice president

Stephanie L. Ray
M.Ed., associate dean of students; director, diversity programs

J. Denise Johnson-Marshall
assistant dean of students; director of disability services

Ericka McGarity
assistant dean of students & director of student integrity

Danielle McDonald
assistant dean of students & director of student involvement

Buck Cooke
assistant dean of students & director of greek affairs

Yvette Upton
assistant dean of students & director, women's resource center

Ruperto Perez
Ph.D., director, counseling center

Jay C. Constantz
director, center for the arts

Michael W. Edwards
M.S., director, campus recreation

Betsy Kidwell
director, finance and operations

Ralph Mobley
M.P.A., director, career services

John M. Stein
M.A., M.S., director, success programs

Phillip Thompson
Ph.D., J.D., LL.M., director leadership education and programs

MEMBER INSTITUTIONS

Research Universities

Georgia Institute of Technology
Georgia State University
Medical College of Georgia
University of Georgia

Regional Universities

Georgia Southern University
Valdosta State University

State Universities

Albany State University
Armh4 Atlantic State University
Augusta State University
Clayton College and State University
Columbus State University
Fort Valley State University
Georgia College and State University
Georgia Southwestern State University
Kennesaw State University
North Georgia College and State University
Savannah State University
Southern Polytechnic State University
State University of West Georgia

State Colleges

Dalton State College
Macon State College

Two-year Colleges

Abraham Baldwin Agricultural College
Atlanta Metropolitan College
Bainbridge College
Coastal Georgia Community College
Darton College
East Georgia College
Floyd College
Gainesville College
Georgia Perimeter College
Gordon College
Middle Georgia College
South Georgia College
Waycross College
Board of Regents
University System of Georgia

270 Washington Street S.W.
Atlanta, Georgia 30334
404.656.2202

UNIVERSITY SYSTEM ADMINISTRATION

BOARD OF REGENTS

The Georgia Institute of Technology is one of the educational institutions constituting the University System of Georgia. The University System is governed by an eighteen-member Board of Regents, the members of which are appointed to seven-year terms by the governor of Georgia. The members of the Board of Regents are listed below.

Carter, Hugh A., Jr.
State-at-Large

Cleveland, William H.
State-at-Large

Coles, Michael J.
Sixth District

Hatcher, Robert F.
Eighth District

Hunt, Julie Ewing
Second District

Jenkins, Felton
State-at-Large

Jennings, W. Mansfield, Jr.
First District

Jolly, James R.
Tenth District

Leebern, Donald M., Jr.
State-at-Large

McMillan, Elridge
Fifth District

Pittard, Patrick S.
Ninth District

Poitevint, Doreen Stiles
State-at-Large

Potts, Willis J.
Eleventh District

Rodwell, Wanda Yancey
Fourth District

Shelnut, J. Timothy
Twelfth District

Tarbutton, Benjamin J.
Third District

Tucker, Richard L.
Seventh District

Vigil, Allan
Thirteenth District

CHANCELLOR OF THE UNIVERSITY SYSTEM AND THE ADMINISTRATIVE STAFF

Chancellor Erroll B. Davis Jr.is the chief administrative officer of the University System and the chief executive officer of the Board of Regents. Members of the chancellor's administrative staff are the following:

Gail S. Weber
secretary to the Board

Ron Stark
associate vice chancellor
internal audit

Rob Watts
senior policy advicor

OFFICE OF ACADEMIC AND FISCAL AFFAIRS

Daniel S. Papp
senior vice chancellor
academic and fiscal affairs

ACADEMICS-FACULTY AND STUDENT AFFAIRS

Frank A. Butler
vice chancellor for academics
faculty and student affairs

Cathie M. Hudson
associate vice chancellor
strategic research and analysis

Jan Kettlewell
associate vice chancellor
P-16 initiatives; executive director
University System of Georgia Foundation

Tonya Lam
associate vice chancellor
student affairs

John T. Wolfe Jr.
associate vice chancellor
faculty affairs

Kris Biesinger
assistant vice chancellor
advanced learning technologies

Joseph J. Szutz
assistant vice chancellor
planning

Dorothy Zinsmeister
assistant vice chancellor
academic affairs; associate director for higher education
PRISM Initiative

Marci Middleton
director
academic program coordination

Richard C. Sutton
senior advisor for academic affairs
director of international programs

FISCAL AFFAIRS

William R. Bowes
vice chancellor for fiscal affairs

Usha Ramachandran
budget director

Gerald Vaughan
assistant budget director

Debra Lasher
executive director
business and financial affairs

Michael Cole
assistant director
financial services and systems

Robert Elmore
assistant director
business services

INFORMATION AND INSTRUCTIONAL TECHNOLOGY

Randall A. Thursby
vice chancellor/chief information officer

Jim Flowers
special assistant to the chief information officer

Tom Maier
assistant vice chancellor
information technology

John Graham
executive director
enterprise applications systems

Merryl Penson
executive director
library services

John Scoville
executive director
enterprise infrastructure services

David Disney
director
customer services

Matthew Kuchinski
director
office systems support

Lisa Striplin
director
administrative services

OFFICE OF EXTERNAL ACTIVITIES AND FACILITIES

Thomas E. Daniel
senior vice chancellor

EXTERNAL ACTIVITIES

Lamar Veatch
assistant vice chancellor
Georgia Public Library Service

Joy Hymel
executive director
economic development

Terry Durden
director
ICAPP operations

Arlethia Perry-Johnson
associate vice chancellor
media and publications

John Millsaps
director
communications/marketing

Diane Payne
director
publications

FACILITIES

Linda M. Daniels
vice chancellor
facilities

Hal Gibson
assistant vice chancellor
design and construction

Peter J. Hickey
assistant vice chancellor
real properties

Mark Demyanek
director
environmental safety

Alan Travis
director
planning

OFFICE OF SUPPORT SERVICES

Corlis Cummings
senior vice chancellor

LEGAL AFFAIRS

Elizabeth E. Neely
associate vice chancellor
legal affairs

Robyn A. Crittenden
assistant vice chancellor
legal affairs (contracts)

J. Burns Newsome
assistant vice chancellor
legal affairs (prevention)

HUMAN RESOURCES

William H. Wallace Jr.
associate vice chancellor
human resources

Sherea Frazer
director
human resources

THE UNIVERSITY SYSTEM OF GEORGIA

Since 1932 all state-operated institutions of higher education in Georgia including the Georgia Institute of Technology have sought to accomplish their goals of instruction public service and research through their affiliation with the University System of Georgia. Governed by the eighteen-member constitutional Board of Regents under the administration of the chancellor the four research universities two regional universities thirteen state universities two state colleges and thirteen two-year colleges that compose the System retain a high degree of autonomy while cooperating with member institutions within the structure of Board policy. In addition to the formulation and administration of policy the Board of Regents is responsible for requesting appropriations from the Georgia legislature and for allocating these funds to member institutions.

To provide students in Georgia with quality instruction leading to a variety of degrees the Board of Regents establishes minimum academic standards granting to each member institution the prerogative of establishing higher standards. Besides providing a foundation for sound instruction the Board encourages public service and continuing education programs including lectures conferences short courses advisory services extension courses and teacher education consortiums. The Board also encourages research related to the educational objectives of the institutions and originating in societal need. Appointed by the governor and confirmed by the Georgia Senate the members of the Board of Regents - five from the state at large and one from each of the state's thirteen congressional districts - serve for seven-year terms; the chancellor who is not a member of the Board is chief executive and administrative officer for the Board and the University System. Each institution has as its executive head a president whose selection is recommended by the chancellor and approved by the Board.

FULL-TIME ACADEMIC FACULTY (A-G)

As of February 1, 2006

Karen I Aardal
Ph.D. Catholic University Louvain
Associate Professor, Industrial and Systems Engineering

Gregory B Abbott
MFA, University Of Georgia
Instructor, Literature,Communication, and Culture (LCC)

Said I Abdel-Khalik
Ph.D. University of Wisconsin, Madison
Professor, Mechanical Engineering

Randal T Abler
Ph.D. Georgia Institute of Technology
Assistant Professor, Georgia Tech Savannah

Gregory D Abowd
D.Phil, University of Oxford
Associate Professor, Computing

Gena L Abraham
Ph.D. Georgia Institute of Technology
Assistant Professor, Civil and Environmental Engineering

Phillip L Ackerman
Ph.D. University of Illinois, Urbana
Professor, Psychology

Ali Adibi
Ph.D. California Institute of Technology
Associate Professor, Electrical and Computer Engineering

Pradeep K Agrawal
Ph.D. University of Delaware
Associate Professor, Chemical and Biomolecular Engineering

Shabbir Ahmed
Ph.D. University of Illinois, Urbana
Assistant Professor, Industrial and Systems Engineering

Frederick W Ahrens
Ph.D. University of Wisconsin, Madison
Professor, Mechanical Engineering

Cyrus K Aidun
Ph.D. Clarkson C Tech
Professor, Mechanical Engineering

Ian F Akyildiz
Ph.D. University of Erlangen, Nuremberg
Professor, Electrical and Computer Engineering

Eleanor C Alexander
Ph.D. Brown University
Associate Professor, History, Technology, and Society

Christos Alexopoulos
Ph.D. University of North Carolina, Chapel Hill
Associate Professor, Industrial and Systems Engineering

Faiz A Al-Khayyal
Ph.D. George Washington University
Associate Professor, Industrial and Systems Engineering

Sue Ann Bidstrup Allen
Ph.D. University of Minnesota
Executive Assistant to the President of the Academic Affairs and Professor, Chemical and Biomolecular Engineering, Chemical and Biomolecular Engineering

Douglas C Allen
M.S. LA, Harvard University
Associate Dean-Academic, Architecture, College of

Janet K Allen
Ph.D. University of California, Berkeley
Associate Professor, Georgia Tech Savannah

Mark G Allen
Ph.D. Massachusetts Institute of Technology
Regents' Professor, Electrical and Computer Engineering

Michael T Allen
Ph.D. Pennsylvania State University
Associate Professor, History, Technology, and Society

Ghassan Al-Regib
Ph.D. Georgia Institute of Technology
Assistant Professor, Georgia Tech Savannah

Yucel Altunbasak
Ph.D. University of Rochester
Associate Professor, Electrical and Computer Engineering

Adjo Akpene Amekudzi
Ph.D. Carnegie Mellon University
Associate Professor, Civil and Environmental Engineering

Jane C Ammons
Ph.D. Georgia Institute of Technology
Associate Dean for Faculty Affairs, Engineering, College of

Jane C Ammons
Ph.D. Georgia Institute of Technology
Associate Dean-Academic, Industrial and Systems Engineering

David V Anderson
Ph.D. Georgia Institute of Technology
Associate Professor, Electrical and Computer Engineering

Sigrun Andradottir
Ph.D. Stanford University
Professor, Industrial and Systems Engineering

Libero Andreotti
Ph.D. Massachusetts Institute of Tech.
Associate Professor, Architecture, College of

Alfred D Andrew
Ph.D. Stanford University
Professor, Mathematics

Mustafa M Aral
Ph.D. Georgia Institute of Technology
Professor, Civil and Environmental Engineering

Ronald C Arkin
Ph.D. University of Massachusetts, Amherst
Regents' Professor, Computing

Erian A Armanios
Ph.D. Georgia Institute of Technology
Professor, Aerospace Engineering

Godfried L Augenbroe
M.S. , Delft University of Technology
Associate Professor, Architecture, College of

Philip Auslander
Ph.D. Cornell University
Professor, Literature, Communication and Culture

Farrokh Ayazi
Ph.D. University of Michigan, Ann Arbor
Associate Professor, Electrical and Computer Engineering

Hayriye Ayhan
Ph.D. Texas A and M University, Main Campus
Associate Professor, Industrial and Systems Engineering

Julia Elizabeth Babensee
Ph.D. University of Toronto
Associate Professor, Biomedical Engineering

David Albert Bader
Ph.D. University of Maryland
Associate Professor, Computing

Matthew Howard Baker
Ph.D. University of California, Berkeley
Assistant Professor, Mathematics

Yury Y Bakhtin
Ph.D. Moscow State Lomonosov University
Assistant Professor, Mathematics

Tucker R. Balch
Ph.D. Georgia Institute of Technology
Associate Professor, Computing

Daniel F Baldwin
Ph.D. Massachusetts Institute of Technology
Associate Professor, Mechanical Engineering

Sujit Banerjee
Ph.D. Concordia University
Professor, Chemical and Biomolecular Engineering

Gang Bao
Ph.D. Lehigh University
Professor, Biomedical Engineering

E Kent Barefield
Ph.D. Ohio State University
Associate Dean, College of Sciences and Professor, Chemistry and Biochemistry, Sciences, College of

Richard P Barke
Ph.D. University of Rochester
Associate Professor, Public Policy

Christopher F Barnes
Ph.D. Brigham Young University
Associate Professor, Georgia Tech Savannah

Earl R Barnes
Ph.D. University of Maryland, College Park
Professor, Industrial and Systems Engineering

Thomas P Barnwell
Ph.D. Massachusetts Institute of Technology
Professor, Electrical and Computer Engineering

Bridgette Anne Barry
Ph.D. University of California, Davis
Professor, Chemistry and Biochemistry

John R Barry
Ph.D. University of California, Berkeley
Associate Professor, Electrical and Computer Engineering

John J Bartholdi
Ph.D. University of Florida
Professor, Industrial and Systems Engineering

Saugata Basu
Ph.D. New York University
Associate Professor, Mathematics

Olivier A Bauchau
Ph.D. Massachusetts Institute of Technology
Professor, Aerospace Engineering

Ronald H Bayor
Ph.D. University of Pennsylvania
Professor, History, Technology, and Society

Suzanne Beckham
Ph.D. Stanford University
Senior Research Scientist, Chemistry and Biochemistry

Haskell W Beckham
Ph.D. Massachusetts Institute of Technology
Professor, Polymer, Textile, and Fiber Engineering

Miroslav M Begovic
Ph.D. Virginia Polytechnic Institute
Professor, Electrical and Computer Engineering

Igor Belegradek
Ph.D. University of Maryland
Assistant Professor, Mathematics

Johan G F Belinfante
Ph.D. Princeton University
Professor, Mathematics

Ravi Venkat Bellamkonda
Ph.D. Brown University
Professor, Biomedical Engineering

Jean V Bellissard
Ph.D. University of Provence
Professor, Mathematics

Willie J Belton
Ph.D. Pennsylvania State University
Associate Chair-Academic, Economics

Paul J Benkeser
Ph.D. University of Illinois, Urbana
Associate Chair-Academic, Biomedical Engineering

Nathan Bennett
Ph.D. Georgia Institute of Technology
Associate Dean-Academic, Management

Michael H Bergin
Ph.D. Carnegie Mellon University
Associate Professor, Civil and Environmental Engineering

Roberta M Berry
Ph.D. University of Notre Dame
Associate Professor, Public Policy

Yves H Berthelot
Ph.D. University of Texas, Austin
Professor, Mechanical Engineering

Ronald Lester Billings
Ph.D. University of Texas, Austin
Assistant Professor, Industrial and Systems Engineering

Vicki L Birchfield
Ph.D. University of Georgia
Assistant Professor, International Affairs

Robert X Black
Ph.D. Massachusetts Institute of Technology
Associate Professor, Earth and Atmospheric Sciences

Barbara Blackbourn-Jansma
Ph.D. University of Wisconsin, Madison
Associate Professor, Modern Languages

Fredda Blanchard-Fields
Ph.D. Wayne State University
Professor, Psychology

W J Blane
M.S. IM, Georgia Institute of Techology
Assistant Professor, Architecture, College of

Douglas M Blough
Ph.D. Johns Hopkins University
Professor, Electrical and Computer Engineering

Terry C Blum
Ph.D. Columbia University
Dean Academic, Management

Aaron Bobick
Ph.D. Massachusetts Institute of Technology
Professor, Computing

Ian S Bogost
Ph.D. University of Florida
Assistant Professor, Literature, Communication and Culture

Alexandra O Boldyreva
Ph.D. University of California
Assistant Professor, Computing

Jay D Bolter
Ph.D. University of North Carolina, Chapel Hill
Professor, Literature, Communication and Culture

Andreas S Bommarius
Ph.D. Massachusetts Institute of Technology
Professor, Chemical and Biomolecular Engineering

Federico Bonetto
Ph.D. University of Roma
Assistant Professor, Mathematics

Wayne J Book
Ph.D. Massachusetts Institute of Technology
Professor, Mechanical Engineering

Mark Borodovsky
Ph.D. Moscow P.T. St Consv
Regents' Professor, Biology

Mark Borodovsky
Ph.D. Moscow Institute of Physics and Technology
Regents' Professor, Biomedical Engineering

Thomas D Boston
Ph.D. Cornell University
Professor, Economics

Ann Bostrom
Ph.D. Carnegie Mellon University
Associate Dean-Academic, Ivan Allen College

Lawrence A Bottomley
Ph.D. University of Houston
Professor, Chemistry and Biochemistry

Kirk S Bowman
Ph.D. University of North Carolina, Chapel Hill
Associate Professor, International Affairs

Barbara D Boyan
Ph.D. Rice University
Professor, Biomedical Engineering

Barry L Bozeman
Ph.D. Ohio State University
Regents' Professor, Public Policy

Oliver Brand
Ph.D. Swiss Federal Institute of Technology, Lausanne
Associate Professor, Electrical and Computer Engineering

Berdinus A Bras
Ph.D. University of Houston
Professor, Mechanical Engineering

Robert David Braun
Ph.D. Stanford University
Davis and Andrew Lewis Associate Professor of Space Technology, Aerospace Engineering

Peter K Brecke
Ph.D. Massachusetts Institute of Technology
Associate Professor, International Affairs

Jean-Luc Bredas
Ph.D. University of Namur (Belgium)
Georgia Research Alliance Eminent Scholar in Molecular Design and Professor, Chemistry and Biochemistry

Laurens Victor Adriaan Breedveld
Ph.D. University of Twente
Assistant Professor, Chemical and Biomolecular Engineering

Ron Broglio
Ph.D. University of Florida
Assistant Professor, Literature, Communication and Culture

John A Buck
Ph.D. University of California, Berkeley
Professor, Electrical and Computer Engineering

David G Bucknall
Ph.D. Imperial College London
Associate Professor, Polymer, Textile, and Fiber Engineering.

Alice Bullard
Ph.D. University of California, Berkeley
Associate Professor, History, Technology, and Society

Leonid Bunimovich
Ph.D. Moscow M.V.L. State University
Regents' Professor, Mathematics

Uwe H F Bunz
Ph.D. Ludwig Maximillians Universitat Munchen
Professor, Chemistry and Biochemistry

Robert H Burgess
ABD-Ph.D. Georgia Institute of Technology
Lecturer, Management

Thomas J Burkholder
Ph.D. University California, San Diego
Associate Professor, Applied Physiology, School of

Susan Elizabeth Burns
Ph.D. Georgia Institute of Technology
Associate Professor, Civil and Environmental Engineering

Robert J Butera
Ph.D. Rice University
Associate Professor, Electrical and Computer Engineering

Lloyd L Byars
Ph.D. Georgia State University
Professor, Management

John Cairney
Ph.D.
Associate Professor, Biology

Anthony J Calise
Ph.D. University of Pennsylvania
Professor, Aerospace Engineering

William R Callen
Ph.D. Stanford University
Professor, Electrical and Computer Engineering

Eric A Carlen
Ph.D. Princeton University
Professor, Mathematics

Wallace W Carr
Ph.D. Georgia Institute of Technology
Professor, Polymer, Textile, and Fiber Engineering

William Brent Carter
Ph.D. Georgia Institute of Technology
Associate Professor, Materials Science and Engineering

Marco Eduardo Castillo
Ph.D. University of Wisconsin, Madison
Assistant Professor, Public Policy

Richard Catrambone
Ph.D. University of Michigan, Ann Arbor
Associate Professor, Psychology

Marco Ceccagnoli
Ph.D. Carnegie Mellon University
Assistant Professor, Management

Rajesh Chakrabarti
Ph.D. University of California, Los Angeles
Assistant Professor, Management

Goutam N Challagalla
Ph.D. University of Texas, Austin
Associate Professor, Management

Jean-Lou Chameau
Ph.D. Stanford University
Provost, Provost-VP Academic Affairs

Young-Hui Chang
Ph.D. University of California, Berkeley
Assistant Professor, Applied Physiology, School of

Gee-Kung Chang
Ph.D. University of California, Riverside
Professor, Electrical and Computer Engineering

Yih-Long Chang
Ph.D. University of Texas, Austin
Professor, Management

Michael S Chapman
Ph.D. Massachusetts Institute of Technology
Professor, Physics

Abhijit Chatterjee
Ph.D. University of Illinois, Urbana
Professor, Electrical and Computer Engineering

Ruizhen Rachel Chen
Ph.D. California Institute of Technology
Associate Professor, Chemical and Biomolecular Engineering

Xu-Yan Chen
Ph.D. Hiroshima University
Associate Professor, Mathematics

Ye-Hwa Chen
Ph.D. University of California, Berkeley
Professor, Mechanical Engineering

Yury O Chernoff
Ph.D. Leningrad State University
Associate Chair-Academic, Biology

George Chimonas
Ph.D. University of Sussex
Professor, Earth and Atmospheric Sciences

Jung Ho Choi
Ph.D. University of California, San Diego
Associate Chair-Academic, Biology

Mei-Yin Chou
Ph.D. University of California, Berkeley
School Chair and Advance Professor, Physics

Ruchi Choudhary
Ph.D. University of Michigan
Assistant Professor, Architecture, College of

Shui-Nee Chow
Ph.D. University of Maryland, College Park
Professor, Mathematics

Howard Yuen Fung Choy
Ph.D. University of Colorado, Boulder
Assistant Professor, Modern Languages

Wayne C Chung
Ph.D. Philadelphia College of Art
Associate Professor, Architecture, College of

Chul Chung
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Economics

Bryan K Church
Ph.D. University of Florida
Professor, Management

David S Citrin
Ph.D. University of Illinois, Urbana
Associate Professor, Electrical and Computer Engineering

Alka Varma Citrin
Ph.D. Washington State University
Assistant Professor, Management

Mihai A Ciucu
Ph.D. University of Michigan, Ann Arbor
Associate Professor, Mathematics

Frank Leo Clark
Ph.D. University of Arizona
Professor, Architecture, College of

John-Paul B Clarke
Ph.D. Massachusetts Institute of Technology
Associate Professor, Aerospace Engineering

Jonathan E Clarke
Ph.D. University of Pittsburgh
Assistant Professor, Management

Mark A Clements
Ph.D. Massachusetts Institute of Technology
Professor, Electrical and Computer Engineering

Kim M Cobb
Ph.D. Scripps College
Assistant Professor, Earth and Atomospheric Sciences

Molly Cochran
Ph.D. London-School of Economics and Political Science
Associate Professor, International Affairs

Joe K Cochran
Ph.D. Ohio State University
Professor, Materials Science and Engineering

Carol A Colatrella
Ph.D. Rutgers State University
Professor, Literature, Communication and Culture

David M Collard
Ph.D. University of Massachusetts, Amherst
Professor, Chemistry and Biochemistry

Jonathan S Colton
Ph.D. Massachusetts Institute of Technology
Professor, Mechanical Engineering

Kelly Renee Comfort
Ph.D. University of California, Davis
Assistant Professor, Modern Languages

Eugene E Comiskey
Ph.D. Michigan State University
Associate Dean-Academic, Management

Edward H Conrad
Ph.D. University of Wisconsin, Madison
Associate Professor, Physics

Cheryl K Contant
Ph.D. Stanford University
Professor, Architecture, College of

William J Cook
Ph.D. University of Waterloo
Professor, Industrial and Systems Engineering

Fred L Cook
Ph.D. Georgia Institute of Technology
Professor, Polymer, Textile, and Fiber Engineering

John A Copeland
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Paul M Corballis
Ph.D. Columbia University
Assistant Professor, Psychology

Gregory M Corso
Ph.D. New Mexico State University
Associate Chair-Academic, Psychology

Mark Costello
Ph.D. Georgia Institute of Technology
Sikorsky Associate Professor in Rotorcraft Technology, Aerospace Engineering

Bettina F Cothran
Ph.D. Gesamthochschule Wup
Associate Professor, Modern Languages

Nora C Cottille-Foley
Ph.D. Northwestern University
Associate Professor, Modern Languages

Mark H Cottle
M.S. , Harvard University
Assistant Professor, Architecture, College of

Susan E Cozzens
Ph.D. Columbia University
Professor, Public Policy

James I Craig
Ph.D. Stanford University
Professor, Aerospace Engineering

Robert M Craig
Ph.D. Cornell University
Professor, Architecture, College of

Thomas H Crawford
Ph.D. Duke University
Associate Professor, Literature, Communication and Culture

John D Cressler
Ph.D. Columbia University
Professor, Electrical and Computer Engineering

Ernest Samuel Croot
Ph.D. University of Georgia
Assistant Professor, Mathematics

Michael Cummins
Ph.D. Northwestern University
Senior Academic Professional, Management

Kenneth A Cunefare
Ph.D. Pennsylvania State University
Associate Professor, Mechanical Engineering

Judith A Curry
Ph.D. University of Chicago
School Chair-Academic, Earth and Atmospheric Sciences

Predrag Cvitanovic
Ph.D. Cornell University
Professor, Physics

Richard L Dagenhart
M.S. , University of Pennsylvania
Associate Professor, Architecture, College of

Jiangang Dai
Ph.D. Stanford University
Professor, Industrial and Systems Engineering

Angela Dalle Vacche
Ph.D. University of Iowa
Associate Professor, Literature, Communication and Culture

Amanda Kidd Damarin
Ph.D. Columbia University
Assistant Professor, Electrical and Computer Engineering

Steven Danyluk
Ph.D. Cornell University
Professor, Mechanical Engineering

Dragomir Davidovic
Ph.D. Johns Hopkins University
Associate Professor, Physics

J. Narl Davidson
Ph.D. University of Michigan
Associate Dean for Administration and Finance, Engineering, College of

Douglas Davis
Ph.D. University of Florida
Professor Emeritus, Earth and Atmospheric Sciences

Elizabeth Davis
Ph.D. Columbia University
Associate Professor, Psychology

Jeffrey A Davis
Ph.D. Georgia Institute of Technology
Associate Professor, Electrical and Computer Engineering

Carolyn D L Davis
Ph.D. Georgia Institute of Technology
Academic Professional, Management

Walter A De Heer
Ph.D. University of California, Berkeley
Professor, Physics

F Levent Degertekin
Ph.D. Stanford University
Associate Professor, Mechanical Engineering

Richard A DeMillo,
Ph.D, Georgia Institute of Technology
The John P. Imlay, Jr. Dean of Computing
Distinguished Professor of Computing

Yulin Deng
Ph.D. University of Manchester
Associate Professor, Chemical and Biomolecular Engineering

Shijie Deng
Ph.D. University of California, Berkeley
Assistant Professor, Industrial and Systems Engineering

Reginald Desroches
Ph.D. University of California, Berkeley
Associate Professor, Civil and Environmental Engineering

Steven DeWeerth
Ph.D. California Institute of Technology
Professor, Biomedical Engineering

Stephen P DeWeerth
Ph.D. California Institute of Technology
Associate Chair-Academic, Electrical and Computer Engineering

Emanuele Di Lorenzo
Ph.D. Scripps College
Assistant Professor, Earth and Atomospheric Sciences

Thomas J DiChristina
Ph.D. California Institute of Technology
Professor, Biology

Robert E. Dickinson
Ph.D. Massachusetts Institute of Technology
Professor, Earth and Atmospheric Sciences

Robert M Dickson
Ph.D. University of Chicago
Associate Professor, Chemistry and Biochemistry

Luca Dieci
Ph.D. University of New Mexico
Associate Chair-Academic, Mathematics

Harris Dimitropoulos
Ph.D. Aristotelian University Salon
Associate Professor, Architecture, College of

Michelle Lynn Dion
Ph.D. University of North Carolina, Chapel Hill
Assistant Professor, International Affairs

Deepakraj M Divan
Ph.D. University of Calgary
Professor, Electrical and Computer Engineering

William A Doolittle
Ph.D. Georgia Institute of Technology
Assistant Professor, Electrical and Computer Engineering

John F Dorsey
Ph.D. Michigan State University
Professor, Electrical and Computer Engineering

Elizabeth M Dowling
Ph.D. University of Pennsylvania
Professor, Architecture, College of

Donald F Doyle
Ph.D. University of North Carolina, Chapel Hill
Assistant Professor, Chemistry and Biochemistry

Mulalo Doyoyo
Ph.D. Brown University
Assistant Professor, Civil and Environmental Engineering

William J Drummond
Ph.D. University of North Carolina, Chapel Hill
Associate Professor, Architecture, College of

Richard A Duke
Ph.D. University of Virginia
Professor, Mathematics

Ellen Dunham-Jones
M.S. , Princeton University
Associate Professor, Architecture, College of

Russell Dean Dupuis
Ph.D. University of Illinois, Urbana-Chanpaign
Professor, Electrical and Computer Engineering

Gregory David Durgin
Ph.D. Virginia Polytechnic Institute
Assistant Professor, Electrical and Computer Engineering

Charles Eastman
M.S. , University of California Berkeley
Professor, Architecture, College of

Imme Ebert-Uphoff
Ph.D. Johns Hopkins University
Associate Professor, Mechanical Engineering

Charles A Eckert
Ph.D. University of California, Berkeley
Professor, Chemical and Biomolecular Engineering

Athanassios Economou
Ph.D. University of California at Los Angeles
Associate Professor, Architecture, College of

Paul Edmonds
Ph.D. University of Cincinnati
Associate Professor, Biology

Magnus Egerstedt
Ph.D. Royal Veterinary College, Sweden
Assistant Professor, Electrical and Computer Engineering

Michael L Elliott
Ph.D. Massachusetts Institute of Technology
Associate Professor, Architecture, College of

Mostafa A El-Sayed
Ph.D. Florida State University
Regents' Professor, Chemistry and Biochemistry

Susan E Embretson
Ph.D. University of Minnesota
Professor, Psychology

Leroy Z Emkin
Ph.D. Massachusetts Institute of Technology
Professor, Civil and Environmental Engineering

Howard L Empie
Ph.D. University of Minnesota
Professor, Chemical and Biomolecular Engineering

John E Endicott
Ph.D. Tufts University
Professor, International Affairs

Cassiano Ricardo Endres de Oliveira
Ph.D. University of London
Professor, Mechanical Engineering

Dana Randall,
Ph.D, University of California, Berkeley
Associate Professor, Computing

Randall W Engle
Ph.D. Ohio State University
School Chair-Academic, Psychology

Ahmet Erbil
Ph.D. Massachusetts Institute of Technology
Professor, Physics

Alan L Erera
Ph.D. University of California, Berkeley
Assistant Professor, Industrial and Systems Engineering

Ozlem Ergun
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Industrial and Systems Engineering

Augustine O Esogbue
Ph.D. University of Southern California
Professor, Industrial and Systems Engineering

Irfan A Essa
Ph.D. Massachusetts Institute of Technology
Associate Professor, Computing

John B Etnyre
Ph.D. University of Texas
Associate Professor, Mathematics

Cheol Soo Eun
Ph.D. New York University
Professor, Management

Christoph J. Fahrni
Ph.D. University of Basel
Associate Professor, Chemistry and Biochemistry

Ko-Hui M Fan
Ph.D. University of Maryland, College Park
Associate Professor, Electrical and Computer Engineering

Michael C Farmer
Ph.D. Ohio State University
Affiliate, Economics

Nick Feamster
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Computing

Donald B Fedor
Ph.D. University of Illinois, Urbana
Professor, Management

Andrei G Fedorov
Ph.D. Purdue University
Associate Professor, Mechanical Engineering

Robert King Feeney
Ph.D. Georgia Institute of Technology
Professor Emeritus, Electrical and Computer Engineering

Faramarz Fekri
Ph.D. Georgia Institute of Technology
Assistant Professor, Electrical and Computer Engineering

Jack M Feldman
Ph.D. University of Illinois, Chicago
Professor, Psychology

Ian T Ferguson
Ph.D. University of Saint Andrews
Professor, Electrical and Computer Engineering

Mark Ferguson
Ph.D. Duke University
Assistant Professor, Management

Facundo M Fernandez
Ph.D. University of Buenos Aires
Assistant Professor, Chemistry and Biochemistry

Eric Marie J Feron
Ph.D. Stanford University
Dutton-Ducoffe Professor of Aerospace Engineering, Aerospace Engineering

Aldo A Ferri
Ph.D. Princeton University
Associate Professor, Mechanical Engineering

Bonnie Heck Ferri
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Phillip N First
Ph.D. University of Illinois, Urbana
Associate Professor, Physics

Arthur D Fisk
Ph.D. University of Illinois, Urbana
Professor, Psychology

Douglas Flamming
Ph.D. Vanderbilt University
Associate Professor, History, Technology, and Society

M Raymond Flannery
Ph.D. University of Belfast
Regents' Professor, Physics

Robert D Foley
Ph.D. University of Michigan, Ann Arbor
Professor, Industrial and Systems Engineering

James D Foley
Ph.D. University of Michigan, Ann Arbor
Stephen Fleming Chair in Telecommunications
Professor, Computing

Larry J Forney
Ph.D. Harvard University
Associate Professor, Chemical and Biomolecular Engineering

Paul Brendan Foster
Ph.D. Ohio State University
Associate Professor, Modern Languages

Lawrence Foster
Ph.D. University of Chicago
Professor, History, Technology, and Society

Ronald F Fox
Ph.D. Rockefeller University
Regents' Professor, Physics

Mary Frank Fox
Ph.D. University of Michigan, Ann Arbor
Professor, Public Policy

Albert B Frazier
Ph.D. Georgia Institute of Technology
Associate Professor, Electrical and Computer Engineering

William J. Frederick
Ph.D. University of Maine
Professor, Chemical and Biomolecular Engineering

Steven P French
Ph.D. University of North Carolina, Chapel Hill
Professor, Architecture, College of

Hermann M Fritz
Ph.D. Swiss Federal Institute of Technology
Assistant Professor, Georgia Tech Savannah

James David Frost
Ph.D. Purdue University
Director Academic, Georgia Tech Savannah

James David Frost
Ph.D. Purdue University
Director, Regional Engineering Program, Professor, Civil and Environmental Engineering

Rong Fu
Ph.D. Columbia University
Associate Professor, Earth and Atmospheric Sciences

Thomas Fuller
Ph.D. University of Southern California, Berkeley
Professor, Chemical and Biomolecular Engineering

Ingrid S. Fulmer
Ph.D. Vanderbilt University
Assistant Professor, Management

Merrick L. Furst
Ph.D,Cornell University
Associate Dean and Distinguished Professor, Computing
Cheryl Gaimon
Ph.D. Carnegie Mellon University
Regents' Professor, Management

Martha Gallivan
Ph.D. California Institute of Technology
Assistant Professor, Chemical and Biomolecular Engineering

Thomas D Galloway
Ph.D. University of Washington
Dean Academic, Architecture, College of

Vicki B Galloway
Ph.D. Universit of South Carolina, Columbia
Professor, Modern Languages

Michael Gamble
M.S. , Georgia Institute of Technology
Assistant Professor, Architecture, College of

Wilfred Gangbo
Ph.D. Swiss Federal Institute of Technology, Lausanne
Professor, Mathematics

Andres J Garcia
Ph.D. University of Pennsylvania
Associate Professor, Mechanical Engineering

Srinivas Garimella
Ph.D. Ohio State University
Associate Professor, Mechanical Engineering

Hamid Garmestani
Ph.D. Cornell University
Professor, Materials Science and Engineering

Stavros Garoufalidis
Ph.D. University of Chicago
Professor, Mathematics

Laurie Anne Garrow
Ph.D. Northwestern University
Assistant Professor, Civil and Environmental Engineering

John W Garver
Ph.D. University of Colorado, Boulder
Professor, International Affairs

Ian R Gatland
Ph.D. University of London
Professor Emeritus, Physics

Monica M Gaughan
Ph.D. University of North Carolina, Chapel Hill
Assistant Professor, Public Policy

Thomas K Gaylord
Ph.D. Rice University
Regents' Professor, Electrical and Computer Engineering

T Russell Gentry
Ph.D. University of Michigan, Ann Arborl
Associate Professor, Architecture, College of

Aris P Georgakakos
Ph.D. Massachusetts Institute of Technology
Associate Chair-Academic, Civil and Environmental Engineering

Rosario A Gerhardt
Ph.D. Columbia University
Professor, Materials Science and Engineering

Leonid Germanovich
Ph.D. Moscow M.V.L. State University
Professor, Civil and Environmental Engineering

Jeffrey Geronimo
Ph.D. Rice University
Professor, Mathematics

Seyed M Ghiaasiaan
Ph.D. University of California, Los Angeles
Professor, Mechanical Engineering

Mohammad Ghomi
Ph.D. John Hopkins University
Associate Professor, Mathematics

Vivek Ghosal
Ph.D. University of Florida
Associate Professor, Economics

Soumen Ghosh
Ph.D. Ohio State University
Professor, Management

Don P. Giddens
Ph.D. Georgia Institute of Technology
Dean-College of Engineering, Biomedical Engineering

Don P Giddens
Ph.D. Georgia Institute of Technology
Dean,College of Engineering, Lawrence L. Gellerstedt, Jr. Cair in Bioengineering and Professor,
Biomedical Engineering, Engineering, College of

August W Giebelhaus
Ph.D. University of Delaware
Professor, History, Technology, and Society

Jerry H Ginsberg
Ph.D. Columbia University
Professor, Mechanical Engineering

Rudolph Gleason
Ph.D. Texas A&M University
Assistant Professor, Biomedical Engineering

Ari Glezer
Ph.D. California Institute of Technology
Professor, Mechanical Engineering

Elias N Glytsis
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Marc Goetschalckx
Ph.D. Georgia Institute of Technology
Associate Professor, Industrial and Systems Engineering

Arun M Gokhale
Ph.D. University of Florida
Professor, Materials Science and Engineering

Stuart H Goldberg
Ph.D. University of Wisconsin, Madison
Assistant Professor, Modern Languages

David Goldsman
Ph.D. Cornell University
Professor, Industrial and Systems Engineering

Guillermo H Goldsztein
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Mathematics

James L Gole
Ph.D. Rice University
Professor, Physics

Michael David Goodisman
Ph.D. University of Georgia
Assistant Professor, Biology

Seymour E Goodman
Ph.D. California Institute of Technology
Professor, International Affairs

Barry Goodno
Ph.D. Stanford University
Professor, Civil and Environmental Engineering

Leslie Stafford Gordon
M.S. , Georgetown University
Visiting Assistant Professor, Modern Languages

T Govindaraj
Ph.D. University of Illinois, Urbana
Associate Professor, Industrial and Systems Engineering

Samuel Graham
Ph.D. Georgia Institute of Technology
Assistant Professor, Mechanical Engineering

Stuart J Graham
Ph.D. University of California, Berekley
Assistant Professor, Management

Alexander G Gray
Ph.D. Carnegie Mellon University
Assistant Professor, Computing

Deborah R Grayson
Ph.D. Michigan State University
Assistant Professor, Literature, Communication and Culture

William L Green
Ph.D. University of Pennsylvania
Professor, Mathematics

Itzhak Green
Ph.D. Technion-Israel Institute of Technology
Professor, Mechanical Engineering

Robert J Gregor
Ph.D. Pennsylvania State University
School Chair-Academic, Applied Physiology, School of

Paul M Griffin
Ph.D. Texas A and M University, Galveston
Professor, Industrial and Systems Engineering

Zenzi M Griffin
Ph.D. University of Illinois, Urbana
Associate Professor, Psychology

Anselm C Griffin
Ph.D. University of Texas, Austin
School Chair-Academic, Polymer, Textile, and Fiber Engineering

Roman O Grigoriev
Ph.D. California Institute of Technology
Associate Professor, Physics

Rebecca Elizabeth Grinter
Ph.D. University of California, Irvine
Associate Professor, Computing

Randall L Guensler
Ph.D. University of California, Davis
Professor, Civil and Environmental Engineering

Serge E Guillas
Ph.D. University of Paris
Assistant Professor, Mathematics

Robert E Guldberg
Ph.D. University of Michigan, Ann Arbor
Associate Professor, Mechanical Engineering

Mark Guzdial
Ph.D. University of Michigan
Professor, Computing

FULL - TIME ACADEMIC FACULTY (H-P)

As of February 1, 2006

Kevin A Haas
Ph.D. University of Delaware
Assistant Professor, Georgia Tech Savannah

Thomas G Habetler
Ph.D. University of Wisconsin, Madison
Professor, Electrical and Computer Engineering

Steven T Hackman
Ph.D. University of California, Berkeley
Associate Professor, Industrial and Systems Engineering

Wassim M Haddad
Ph.D. Florida Institute of Technology
Professor, Aerospace Engineering

Rami M Haj-Ali
Ph.D. University of Illinois, Urbana
Associate Professor, Civil and Environmental Engineering

James O Hamblen
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Sathyanaraya V Hanagud
Ph.D. Stanford University
Professor, Aerospace Engineering

Ronald Gordon Harley
Ph.D. University of London
Professor, Electrical and Computer Engineering

Evans M Harrell
Ph.D. Princeton University
Associate Dean, College of Sciences and Professor of Mathematics, Sciences, College of

Stephen C Harvey
Ph.D. Dartmouth College
Professor, Biology

Paul E Hasler
Ph.D. California Institute of Technology
Associate Professor, Electrical and Computer Engineering

Narin F Hassan
Ph.D. University of Rochester
Assistant Professor, Literature, Communication and Culture

Mark Hay
Ph.D. University of California, Irvine
Professor, Biology

Monson H Hayes
Ph.D. Massachusetts Institute of Technology
Associate Chair-Academic, Georgia Tech Savannah

Anthony J Hayter
Ph.D. Cornell University Endowed Colleges
Associate Professor, Industrial and Systems Engineering

Christopher E Heil
Ph.D. University of Maryland, College Park
Professor, Mathematics

Clifford L Henderson
Ph.D. University of Texas, Austin
Associate Professor, Chemical and Biomolecular Engineering

Rigoberto Hernandez
Ph.D. University of California, Berkeley
Associate Professor, Chemistry and Biochemistry

David M Herold
Ph.D. Yale University
Professor, Management

TyAnna K Herrington
Ph.D. Texas Tech University
Associate Professor, Literature, Communication and Culture

Nolan E Hertel
Ph.D. University of Illinois, Urbana
Professor, Mechanical Engineering

David Richard Hertling
Ph.D. University of Illinois, Urbana
Associate Chair-Academic, Electrical and Computer Engineering

Christopher K Hertzog
Ph.D. University of Southern California
Professor, Psychology

Peter J Hesketh
Ph.D. University of Pennsylvania
Professor, Mechanical Engineering

Dennis W Hess
Ph.D. Lehigh University
Professor, Chemical and Biomolecular Engineering

Diana M Hicks
Ph.D. University of Sussex
School Chair-Academic, Public Policy

Matthew J Higgins
Ph.D. Emory University
Assistant Professor, Management

Dewey H Hodges
Ph.D. Stanford University
Professor, Aerospace Engineering

Michael HG Hoffmann
Ph.D. Ludwig Max University, Munich
Associate Professor, Public Policy

John Wendell Holmes
Ph.D. Massachusetts Institute of Technology
Professor, Aerospace Engineering

Christian Houdre
Ph.D. Mcgill University
Professor, Mathematics

Ayanna Howard
Ph.D. University of South California
Associate Professor, Electrical and Computer Engineering

Jeffery S Hsieh
Ph.D. Syracuse University
Professor, Chemical and Biomolecular Engineering

Frances C Hsu
Ph.D. University of Zurich
Assistant Professor, Architecture, College of

Xiaoping Hu
Ph.D. University of Chicago
Professor, Biomedical Engineering

Ching-Hua Huang
Ph.D. Johns Hopkins University
Assistant Professor, Civil and Environmental Engineering

Nicholas V Hud
Ph.D. University of California, Davis
Associate Professor, Chemistry and Biochemistry

Lewis Gregory Huey
Ph.D. University of Wisconsin, Madison
Associate Professor, Earth and Atmospheric Sciences

Joseph Blake Hughes
Ph.D. University of Iowa
School Chair and Professor, Civil and Environmental Engineering

Joseph L A Hughes
Ph.D. Stanford University
Associate Chair-Academic, Electrical and Computer Engineering

William D Hunt
Ph.D. University of Illinois, Urbana
Professor, Electrical and Computer Engineering

Michael P Hunter
Ph.D. University of Texas, Austin
Assistant Professor, Civil and Environmental Engineering

Xiaoming Huo
Ph.D. Stanford University
Assistant Professor, Industrial and Systems Engineering

Maurizio Iacopetta
Ph.D. New York University
Assistant Professor, Economics

Plamen Ignatov Iliev
Ph.D. Catholic University
Assistant Professor, Mathematics

Ellery D Ingall
Ph.D. Yale University
Associate Professor, Earth and Atmospheric Sciences

Mary Ann Ingram
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Joel R Jackson
Ph.D. Georgia Institute of Technology
Assistant Professor, Georgia Tech Savannah

Karl I Jacob
Ph.D. Ohio State University
Associate Professor, Polymer, Textile, and Fiber Engineering

Laurence J Jacobs
Ph.D. Columbia University
Associate Chair-Academic, Civil and Environmental Engineering

Jechiel I Jagoda
Ph.D. Imperial College, University of London
Professor and Associate Chair-Academic, Aerospace Engineering

Lawrence Robert James
Ph.D. University of Utah
Professor, Psychology

Lawrence James
Ph.D. University of Utah
Professor, Management/Psych

Jiri Janata
Ph.D. Charles University
Professor, Chemistry and Biochemistry

Christopher Jarrett
M.S. , Columbia University
Associate Director-Acad, Architecture, College of

Nikil S Jayant
Ph.D. Stanford University
Professor, Electrical and Computer Engineering

Sundaresan Jayaraman
Ph.D. North Carolina State University, Raleigh
Professor, Polymer, Textile, and Fiber Engineering

Narayanan Jayaraman
Ph.D. University of Pittsburgh
Professor, Management

Sundaresan Jayaraman
Ph.D. North Carolina State University
Professor, Management/PTFE

Sheldon M Jeter
Ph.D. Georgia Institute of Technology
Associate Professor, Mechanical Engineering

Chuanyi Ji
Ph.D. California Institute of Technology
Associate Professor, Electrical and Computer Engineering

Lin Jiang
Ph.D. Rutgers University
Assistant Professor, Biology

Xiangmin Jiao
Ph.D, University of Illinois at Urbana-Champaign
Visiting Assistant Professor, Computing

Hanjoong Jo
Ph.D. Pennsylvania State University
Associate Professor, Biomedical Engineering

Eric N Johnson
Ph.D. Georgia Institute of Technology
Lockheed Martin Assistant Professor of Avionics Integration, Aerospace Engineering

Ellis L Johnson
Ph.D. University of California, Berkeley
Professor, Industrial and Systems Engineering

William Steven Johnson
Ph.D. Duke University
Professor, Materials Science and Engineering

George Barnett Johnston
M.S. , Rice University
Associate Professor, Architecture, College of

Jon J Johnston
Ph.D. University of London
Assistant Professor, Public Policy

Christopher W Jones
Ph.D. California Institute of Technology
Associate Professor, Chemical and Biomolecular Engineering

Yogendra K Joshi
Ph.D. University of Pennsylvania
Associate Chair-Academic, Mechanical Engineering

Biing Hwang Juang
Ph.D. University of California, Santa Barbara
Professor, Electrical and Computer Engineering

Lorraine M Justice
Ph.D. Ohio State University
Associate Professor, Architecture, College of

Lawrence F Kahn
Ph.D. University of Michigan
Professor, Civil and Environmental Engineering

Britta Kallin
Ph.D. University of Cincinnati
Assistant Professor, Modern Languages

Ruth Kanfer
Ph.D. Arizona State University
Professor, Psychology

Roozbeh Kangari
Ph.D. University of Illinois, Urbana
Professor, Architecture, College of

George A Kardomateas
Ph.D. Massachusetts Institute of Technology
Professor, Aerospace Engineering

Jens O M Karlsson
Ph.D. Massachusetts Institute of Technology
Associate Professor, Mechanical Engineering

Stylianos Kavadias
Ph.D. INSEAD, France
Assistant Professor, Management

E Larry Keating
Ph.D. University of Wisconsin
Professor, Architecture, College of

Edward Keene
Ph.D. London-School of Economics and Political Science
Assistant Professor, International Affairs

David C Keezer
Ph.D. Carnegie Mellon University
Professor, Electrical and Computer Engineering

Shella Keilholz
Ph.D. University of Virginia
Assistant Professor, Biomedical Engineering

Derek K Kellenberg
Ph.D. University of Colorado, Boulder
Assistant Professor, Economics

Melissa Kemp
Ph.D. U of Washington
Assistant Professor, Biomedical Engineering

T A Brian Kennedy
Ph.D. Queen's University of Belfast
Professor, Physics

Robert Kennedy
Ph.D. Georgetown University
Professor, International Affairs

James Stevenson Kenney
Ph.D. Georgia Institute of Technology
Associate Professor, Electrical and Computer Engineering

Robert P Kertz
Ph.D. Northwestern University
Professor, Mathematics

Pinar Keskinocak
Ph.D. Carnegie Mellon University
Associate Professor, Industrial and Systems Engineering

Sabir Khan
M.S. , Rice University
Associate Dean-Academic, Architecture, College of

Ajay Khorana
Ph.D. University of North Carolina, Chapel Hill
Associate Professor, Management

Masato Kikuchi
Ph.D. University of Pittsburgh
Associate Professor, Modern Languages

Rehim Kilic
Ph.D. Michigan State University
Assistant Professor, Economics

Seong-Hee Kim
Ph.D. Northwestern University
Assistant Professor, Industrial and Systems Engineering

Jaehong Kim
Ph.D. University of Illinois, Urbana-Chanpaign
Assistant Professor, Civil and Environmental Engineering

William Paul King
Ph.D. Stanford University
Assistant Professor, Mechanical Engineering

Gordon A Kingsley
Ph.D. Syracuse University
Associate Professor, Public Policy

Bernard Kippelen
Ph.D. University of Louis Pasteur
Professor, Electrical and Computer Engineering

John Richard Kirby
Ph.D. University of Illinois, Urbana
Assistant Professor, Biology

Robert J Kirkman
Ph.D. State University of New York, Stony Brook
Assistant Professor, Public Policy

Christopher A Klausmeier
Ph.D. University of Minnesota
Assistant Professor, Biology

Maren Klawiter
Ph.D. University of California, Berkeley
Assistant Professor, History, Technology, and Society

Benjamin D.B. Klein
Ph.D. University of Illinois, Urbana
Assistant Professor, Georgia Tech Savannah

Hans K Klein
Ph.D. Massachusetts Institute of Technology
Associate Professor, Public Policy

Cynthia J Klestinec
Ph.D. University of Chicago
Assistant Professor, Literature,Communication, and Culture (LCC)

Anton J Kleywegt
Ph.D. Purdue University
Associate Professor, Industrial and Systems Engineering

Mikhail M Klimenko
Ph.D. Stanford University
Associate Professor, Economics

Kenneth J Knoespel
Ph.D. University of Chicago
School Chair-Academic, Literature, Communication and Culture

Arthur Koblasz
Ph.D. California Institute of Technology
Associate Professor, Electrical and Computer Engineering

Paul A Kohl
Ph.D. University of Texas, Austin
Regents' Professor, Chemical and Biomolecular Engineering

Vladimir I Koltchinskii
Ph.D. Kiev University
Professor, Mathematics

Narayanan M Komerath
Ph.D. Georgia Institute of Technology
Professor, Aerospace Engineering

Kevin Kornegay
Ph.D. University of California, Berkeley
Associate Professor, Electrical and Computer Engineering

William J Koros
Ph.D. University of Texas, Austin
Professor, Chemical and Biomolecular Engineering

Gerhard Jean Marie Krige
Ph.D. University of Sussex
Professor, History, Technology, and Society

Nils Klaus Kroger
Ph.D. University of Regensburg (Germany)
Assistant Professor, Chemistry and Biochemistry

David N Ku
Ph.D. Georgia Institute of Technology
Regents' Professor, Management/ME

Xi (Jason) Kuang
Ph.D. University of Pittsburgh
Assistant Professor, Management

Julia M Kubanek
Ph.D. University of British Columbia
Assistant Professor, Biology

Satish Kumar
Ph.D. Indian Institute of Technology,Delhi
Professor, Polymer, Textile, and Fiber Engineering

Kimberly E Kurtis
Ph.D. University of California, Berkeley
Associate Professor, Civil and Environmental Engineering

Alexander M Kuzmich
Ph.D. University of Rochester
Assistant Professor, Physics

Paul H Kvam
Ph.D. University of California, Davis
Associate Professor, Industrial and Systems Engineering

Angela Labarca
Ph.D. Ohio State University
Professor, Modern Languages

Michael Lacey
Ph.D. University of Illinois, Urbana
Professor, Mathematics

W J Lackey
Ph.D. North Carolina State University, Raleigh
Professor Emeritus, Mechanical Engineering

James S Lai
Ph.D.
Professor Emeritus, Civil and Environmental Engineering

Uzi Landman
Ph.D. Technion-Israel Institute of Technology
Regents' Professor, Physics

Aaron D Lanterman
Ph.D. Washington University
Assistant Professor, Electrical and Computer Engineering

Michelle C LaPlaca
Ph.D. University of Pennsylvania
Associate Professor, Biomedical Engineering

Joy Laskar
Ph.D. University of Illinois, Urbana
Professor, Electrical and Computer Engineering

Michael J Laughter
MFA, University of New Orleans
Lecturer, Electrical and Computer Engineering

Thang Tu Quoc Le
P HD, Moscow State University
Professor, Mathematics

Joseph M Le Doux
Ph.D. Rutgers State University, Newark
Associate Professor, Biomedical Engineering

W Marshall Leach
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Dianne Leader
Ph.D. University of Tennessee
Instructor, Psychology

W. Jude Leblanc
M.S. , Harvard University
Associate Professor, Architecture, College of

Robert Lee
Ph.D. Northwestern University
Assistant Professor, Biomedical Engineering

Jay H Lee
Ph.D. California Institute of Technology
Professor, Chemical and Biomolecular Engineering

Eva K Lee
Ph.D. Rice University
Associate Professor, Industrial and Systems Engineering

Kok-Meng Lee
Ph.D. Massachusetts Institute of Technology
Professor, Mechanical Engineering

Wenke Lee
Ph.D. Columbia University
Associate Professor, Computing

Hsien-Hsin Sean Lee
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Electrical and Computer Engineering

Chin-Hui Lee
Ph.D. University of Washington
Professor, Electrical and Computer Engineering

Seo Yeon (Suzanne) Lee
Ph.D. University of Chicago
Assistant Professor, Management

Cheryl Leggon
Ph.D. University of Chicago
Associate Professor, Public Policy

Nancey Green Leigh
Ph.D. University of California, Berkeley
Professor, Architecture, College of

Blake Leland
Ph.D. Cornell University
Associate Professor, Literature, Communication and Culture

Roberto T Leon
Ph.D. University of Texas, Austin
Professor, Civil and Environmental Engineering

John D Leonard
Ph.D. University of California, Irvine
Associate Chair-Academic, Civil and Environmental Engineering

Marc E Levenston
Ph.D. Stanford University
Associate Professor, Mechanical Engineering

Ronald B Lewcock
Ph.D. Cape Town University
Professor, Architecture, College of

Haizheng Li
Ph.D. University of Colorado, Boulder
Associate Professor, Economics

Wing Suet Li
Ph.D. University of Michigan, Ann Arbor
Professor, Mathematics

Xiaoliang Li
Ph.D. University of Virginia
Associate Professor, Modern Languages

Ye Li
Ph.D. Auburn University
Associate Professor, Electrical and Computer Engineering

Minqiang Li
Ph.D. University of Illinois, Urbana Champaign
Assistant Professor, Management

Mo Li
Ph.D. California Institute of Technology
Associate Professor, Materials Science and Engineering

Steven Y Liang
Ph.D. University of California, Berkeley
Professor, Mechanical Engineering

Timothy Charles Lieuwen
Ph.D. Georgia Institute of Technology
Associate Professor, Aerospace Engineering

Sung-Kyu Lim
Ph.D. University of California, Los Angeles
Assistant Professor, Electrical and Computer Engineering

Stanley Lindsey
Ph.D. Vanderbilt University
Professor, Georgia Tech Savannah

Charles L Liotta
Ph.D.
VP Research/Dean Grad Studies, Provost-VP Academic Affairs

Harvey Lipkin
Ph.D. University of Florida
Associate Professor, Mechanical Engineering

Yingjie Liu
Ph.D. University of Chicago
Assistant Professor, Mathematics

Meilin Liu
Ph.D. University of California, Berkeley
Professor, Materials Science and Engineering

Daniel Lizarralde
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Earth and Atmospheric Sciences

Donna Crystal Llewellyn
Ph.D. Cornell University
Director Academic, Provost-VP Academic Affairs

Kirill S Lobachev
Ph.D. St. Petersberg State University
Assistant Professor, Biology

Frank E Loeffler
Ph.D. University of Hamburg
Associate Professor, Civil and Environmental Engineering

Robert G Loewy
Ph.D. University of Pennsylvania
William R.T. Oakes Professor and Chair, School of Aerospace Engineering, Aerospace Engineering

Jack R Lohmann
Ph.D. Stanford University
Vice Provost, Provost-VP Academic Affairs

William J Long
Ph.D. Columbia University
School Chair-Academic, International Affairs

Michael Loss
Ph.D. Swiss Federal Institute of Technology, Lausanne
Professor, Mathematics

Hang Lu
Ph.D. Massachusetts Instititute of Technology
Assistant Professor, Chemical and Biomolecular Engineering

Jye-Chyi Lu
Ph.D. University of Wisconsin, Madison
Professor, Industrial and Systems Engineering

Hanchao Lu
Ph.D. University of California, Los Angeles
Professor, History, Technology, and Society

Doron S Lubinsky
Ph.D. University of Witwatersrand
Professor, Mathematics

Peter J Ludovice
Ph.D. Massachusetts Institute of Technology
Associate Professor, Chemical and Biomolecular Engineering

Nicholas H Lurie
Ph.D. University of California, Berekley
Assistant Professor, Management

Thomas N Lux
Ph.D. Emerson College
Professor, Literature, Communication and Culture

Christopher S Lynch
Ph.D. University of California, Santa Barbara
Professor, Mechanical Engineering

Jean Lynch-Stieglitz
Ph.D. Columbia University
Associate Professor, Earth and Atomospheric Sciences

L. Andrew Lyon
Ph.D. Northwestern University
Associate Professor, Chemistry and Biochemistry

Xiaoli Ma
Ph.D. University of Minnesota
Assistant Professor, Electrical and Computer Engineering

Blair MacIntyre
Ph.D.Columbia University
Associate Professor, Computing

Vijay K Madisetti
Ph.D. University of California, Berkeley
Professor, Electrical and Computer Engineering

Sylvia G Maier
Ph.D. University of Southern California
Assistant Professor, International Affairs

Naresh K Malhotra
Ph.D. State University of New York, Buffalo
Regents' Professor, Management

Terry L Maple
Ph.D. University of California, Davis
Professor, Psychology

Alexei Marchenkov
Ph.D. Leiden Satet University
Assistant Professor, Physics

Seth Richard Marder
Ph.D. University of Wisconsin
Professor, Chemistry and Biochemistry

Marcus J Marr
Ph.D. University of North Carolina, Chapel Hill
Professor Emeritus, Psychology

Luis D L Martins
Ph.D. New York University
Associate Professor, Management

Marianne Mason
Ph.D. University Of Georgia
Assistant Professor, Modern Languages

Kyoko Masuda
Ph.D. University of Arizona
Assistant Professor, Modern Languages

Michael J Mateas
Ph.D. Carengie Mellon University
Assistant Professor, Literature, Communication, and Culture and Computing

Heinrich Felix Matzinger
Ph.D. Cornell University
Assistant Professor, Mathematics

Dimitri N Mavris
Ph.D. Georgia Institute of Technology
Boeing Professor in Advanced Aerospace Systems Analysis, Aerospace Engineering

Sheldon W May
Ph.D. University of Chicago
Regents' Professor, Chemistry and Biochemistry

Gary S May
Ph.D. University of California, Berkeley
School Chair-Academic, Electrical and Computer Engineering

Paul W Mayne
Ph.D. Cornell University
Professor, Civil and Environmental Engineering

Mark J McCabe
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Economics

Patrick S McCarthy
Ph.D. Claremont Graduate School
School Chair-Academic, Economics

Nael A McCarty
Ph.D. University of Texas, Health Sciences-Houston
Associate Professor, Biology

James H McClellan
Ph.D. Rice University
Professor, Electrical and Computer Engineering

John McCuan
Ph.D. Stanford University
Associate Professor, Mathematics

Todd C McDevitt
Ph.D. University of Washington
Assistant Professor, Biomedical Engineering

John F McDonald
Ph.D. University of California, Davis
School Chair-Academic, Biology

David L McDowell
Ph.D. University of Illinois, Chicago
Regents' Professor, Mechanical Engineering

Leon F McGinnis
Ph.D. North Carolina State University, Raleigh
Professor, Industrial and Systems Engineering

Peter J McGuire
Ph.D. Brown University
Associate Dean-Academic, Ivan Allen College

Larry Vern McIntire
Ph.D. Princeton University
School Chair-Academic, Biomedical Engineering

John R. McIntyre
Ph.D. University of Georgia
Professor, Management

Phillip McKnight
Ph.D. Brown University
School Chair-Academic, Modern Languages

Steven W McLaughlin
Ph.D. University of Michigan, Ann Arbor
Professor, Electrical and Computer Engineering

Yajun Mei
Ph.D. California Institute of Technology
Assistant Professor, Industrial and Systems Engineering

James D Meindl
Ph.D. Carnegie Mellon University
Joseph M Pettit Chair in Microelectronics, Director of Microelectronics Research Center, and Professor, Electrical and Computer Engineering, Microelectronics Research Ctr

A P Meliopoulos
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Shreyes N Melkote
Ph.D. Michigan Technological University
Associate Professor, Mechanical Engineering

Ronald Mendola
M.S. , State University of New York, Buffalo
Assistant Professor, Architecture, College of

Suresh Menon
Ph.D. University of Maryland, College Park
Professor, Aerospace Engineering

James Carson Meredith
Ph.D. University of Texas, Austin
Associate Professor, Chemical and Biomolecular Engineering

Alfred H Merrill
Ph.D. Cornell University Medical Center
Professor, Biology

Russell M Mersereau
Ph.D. Massachusetts Institute of Technology
Regents' Professor, Electrical and Computer Engineering

Michael D Meyer
Ph.D. Massachusetts Institute of Technology
Professor, Civil and Environmental Engineering

Jennifer E Michaels
Ph.D. Cornell University
Associate Professor, Electrical and Computer Engineering

Thomas E Michaels
Ph.D. Washington State University
Associate Professor, Electrical and Computer Engineering

Valeria Tohver Milam
Ph.D. University of Illinois, Urbana-Champaign
Assistant Professor, Materials Science and Engineering

Melinda Millard-Stafford
Ph.D. University of Georgia
Professor, Applied Physiology, School of

Stuart H. Milne
Ph.D. Georgia Institute of Technology
Academic Professional, Management

Linda S Milor
Ph.D. University of California, Berkeley
Associate Professor, Electrical and Computer Engineering

Konstantin Mischaikow
Ph.D. University of Wisconsin, Madison
Professor, Mathematics

Farrokh Mistree
Ph.D. University of California, Berkeley
Associate Chair-Academic, Georgia Tech Savannah

Christine Mitchell
Ph.D. Ohio State University
Professor, Industrial and Systems Engineering

Sabyasachi Mitra
Ph.D. University of Iowa
Associate Professor, Management

Tracy L Mitzner
Ph.D. University of Kansas
Instructor, Psychology

Boris Mizaikoff
Ph.D. Vienna University
Associate Professor, Chemistry and Biochemistry

Gerd Mockenhaupt
Ph.D. University of Siegen (Germany)
Assistant Professor, Mathematics

Renato DC Monteiro
Ph.D. University of California, Berkeley
Professor, Industrial and Systems Engineering

Cecilia Montes-Alcala
Ph.D. University of California, Berkeley
Assistant Professor, Modern Languages

Joseph P. Montoya
Ph.D. Harvard University
Professor, Biology

Vincent J Mooney
Ph.D. Stanford University
Associate Professor, Electrical and Computer Engineering

Elliot Moore II
Ph.D. Georgia Institute of Technology
Assistant Professor, Georgia Tech Savannah

Thomas Morley
Ph.D. Chestnut Hill College
Professor, Mathematics

Peter J Mucha
Ph.D. Princeton University
Assistant Professor, Mathematics

Rafi L Muhanna
Ph.D. Sofia University St. Kliment Ohridski
Associate Professor, Georgia Tech Savannah

Charles W Mulford
Ph.D. Florida State University
Professor, Management

James A Mulholland
Ph.D. Massachusetts Institute of Technology
Associate Professor, Civil and Environmental Engineering

Janet H Murray
Ph.D. Harvard University
Professor, Literature, Communication and Culture

Niren Murthy
Ph.D. University of Washington
Assistant Professor, Biomedical Engineering

John D Muzzy
Ph.D. Rensselaer Polytechnic Institute
Professor, Chemical and Biomolecular Engineering

Dennis H Nagao
Ph.D. University of Illinois, Urbana Champaign
Associate Professor, Management

Sankar Nair
Ph.D. University of Massachusetts
Assistant Professor, Chemical and Biomolecular Engineering

Usha C Nair-Reichert
Ph.D. Purdue University
Associate Professor, Economics

Sridhar Narasimhan
Ph.D. Ohio State University
Professor, Management

G Paul Neitzel
Ph.D. Johns Hopkins University
Professor, Mechanical Engineering

George L Nemhauser
Ph.D. Northwestern University
Professor, Industrial and Systems Engineering

Arkadi Nemirovski
Ph.D. Moscow State University
Professor, Industrial and Systems Engineering

Athanasios Nenes
Ph.D. California Institute of Technology
Assistant Professor, Chemical and Biomolecular Engineering

Robert M Nerem
Ph.D. Ohio State University
Professor, Mechanical Engineering

Richard W Neu
Ph.D. University of Illinois, Urbana
Associate Professor, Mechanical Engineering

Andrew Vern Newman
Ph.D. Northwestern University
Assistant Professor, Earth and Atmospheric Sciences

Wendy Newstetter
Ph.D. Lancaster University
Director-Learning Sciences Research, Biomedical Engineering

T. Richard Nichols
Ph.D. Harvard University
Professor, Biomedical Engineering

Shuming Nie
Ph.D. Northwestern University
Professor, Biomedical Engineering

Michael Nitsche
Ph.D. Cambridge University
Assistant Professor, Literature, Communication and Culture

Gregory H Nobles
Ph.D. University of Michigan, Ann Arbor
Professor, History, Technology, and Society

Douglas Simpson Noonan
Ph.D. University of Chicago
Assistant Professor, Public Policy

Bryan G Norton
Ph.D. University of Michigan, Ann Arbor
Professor, Public Policy

John R Olds
Ph.D. North Carolina State University, Raleigh
Associate Professor, Aerospace Engineering

Thomas Orlando
Ph.D. State University of New York, Stony Brook
School Chair and Professor, Chemistry and Biochemistry

David I Orloff
Ph.D. Drexel University
Professor, Mechanical Engineering

Alessandro Orso,
Ph.D,Politecnico Di Milano
Assistant Professor, Computing

Allen M Orville
Ph.D. University of Minnesota, Minneapolis, St. Paul
Assistant Professor, Chemistry and Biochemistry

John Oshinski
Ph.D. Georgia Institute of Technology
Assistant Professor, Biomedical Engineering

Abdallah Ougazz
Ph.D. University of Paris VII
Professor, Electrical and Computer Engineering

Henry L Owen
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Adegboyega K Oyelere
Ph.D. Brown University
Assistant Professor, Chemistry and Biochemistry

Krishna V Palem
Ph.D. University of Texas, Austin
Professor, Electrical and Computer Engineering

Ronghua Pan
Ph.D. Chinese Academy of Sciences
Assistant Professor, Mathematics

Ioannis Papapolymerou
Ph.D. University of Michigan, Ann Arbor
Associate Professor, Electrical and Computer Engineering

John G Papastavridis
Ph.D. Purdue University
Associate Professor, Mechanical Engineering

Daniel S Papp
Ph.D. University of Miami
Professor, Provost-VP Academic Affairs

Christiaan Jos Jan Paredis
Ph.D. Carnegie Mellon University
Assistant Professor, Mechanical Engineering

Haesun Park
Ph.D, Cornell University
Professor, Computing

Robert G Parker
Ph.D. Kansas State University
Associate Chair-Academic, Industrial and Systems Engineering

Leonard J Parsons
Ph.D. Purdue University
Professor, Management

Charles K Parsons
Ph.D. University of Illinois, Urbana Champaign
Professor, Management

Timothy Patterson
Ph.D. Georgia Institute of Technology
Assistant Professor, Mechanical Engineering

Spyros G Pavlostathis
Ph.D. Cornell University
Professor, Civil and Environmental Engineering

Willie Pearson
Ph.D. Southern Illinois University, Carbondale
School Chair-Academic, History, Technology, and Society

John B Peatman
Ph.D. Case Western Reserve University
Professor, Electrical and Computer Engineering

Liang Peng
Ph.D. Erasmus University
Assistant Professor, Mathematics

Kurt D Pennell
Ph.D. University of Florida
Associate Professor, Civil and Environmental Engineering

John Peponis
Ph.D. University of London
Professor, Architecture, College of

E Michael Perdue
Ph.D. Georgia Institute of Technology
Professor, Earth and Atmospheric Sciences

Joseph W. Perry
Ph.D. California Institute of Technology
Professor, Chemistry and Biochemistry

Georgia A Persons
Ph.D. Massachusetts Institute of Technology
Professor, Public Policy

Andrew F Peterson
Ph.D. University of Illinois, Urbana
Associate Chair-Academic, Electrical and Computer Engineering

Frank H Pilipp
Ph.D. University of North Carolina, Chapel Hill
Professor, Modern Languages

Alan L Porter
Ph.D.
Professor Emeritus, Public Policy

Steven M Potter
Ph.D. University of California, Irvine
Assistant Professor, Biomedical Engineering

Colin Potts
Ph.D. University of Sheffield
Associate Professor, Computing

James C Powers
Ph.D. Massachusetts Institute of Technology
Regents' Professor, Chemistry and Biochemistry

JVR Prasad
Ph.D. Georgia Institute of Technology
Professor, Aerospace Engineering

Mark R Prausnitz
Ph.D. Massachusetts Institute of Technology
Associate Professor, Chemical and Biomolecular Engineering

Boris I Priloutski
Ph.D. Latvain Res Ortho Inst USSR
Associate Professor, Applied Physiology, School of

Amy R Pritchett
SCD, Mass Inst Tech
David S. Lewis Associate Professor of Cognitive Engineering, Aerospace Engineering

Vera J Proskurina
Ph.D.
Visiting Assistant Professor, Modern Languages

Gerald S Pullman
Ph.D. University of California, Davis
Professor, Biology

Michael Pustilnik
Ph.D. Bar IIan University
Assistant Professor, Physics

Hans B Puttgen
Ph.D. University of Florida
Associate Chair-Academic, Electrical and Computer Engineering

FULL-TIME ACADEMIC FACULTY (Q-Z)

As of February 1, 2006

Jianmin Qu
Ph.D. Northwestern University
Professor, Mechanical Engineering

Arthur J Ragauskas
Ph.D. University of Western Ontario
Associate Professor, Chemistry and Biochemistry

Farzad Rahnema
Ph.D. University of California, Los Angeles
Associate Chair-Academic, Mechanical Engineering

Stephen E Ralph
Ph.D. Cornell University
Associate Professor, Electrical and Computer Engineering

Chandra S Raman
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Physics

Matthew J Realff
Ph.D. Massachusetts Institute of Technology
Associate Professor, Chemical and Biomolecular Engineering

Mary Lynn Realff
Ph.D. Massachusetts Institute of Technology
Associate Professor, Polymer, Textile, and Fiber Engineering

Kevin Reeder
M.S. , Stanford University
Assistant Professor, Architecture, College of

William S Rees
Ph.D. University of California, Los Angeles
Professor, Materials Science and Engineering

Spiridon A Reveliotis
Ph.D. University of Illinois, Urbana
Associate Professor, Industrial and Systems Engineering

William Terrill Rhodes
Ph.D. Stanford University
Professor, Electrical and Computer Engineering

Elisa Riedo
Ph.D. University of Milan
Assistant Professor, Physics

Christine P. Ries
Ph.D. University of Chicago
Professor, Economics

George F Riley
Ph.D. Georgia Institute of Technology
Assistant Professor, Electrical and Computer Engineering

Gabriel A Rincon-Mora
Ph.D. Georgia Institute of Technology
Assistant Professor, Electrical and Computer Engineering

David A Ringholz
MID, North Carolina State University
Assistant Professor, Architecture, College of

Glenn J Rix
Ph.D. University of Texas, Austin
Professor, Civil and Environmental Engineering

James S Roberts
Ph.D. University of South Carolina
Associate Prof, Psychology

Philip J W Roberts
Ph.D. California Institute of Technology
Professor, Civil and Environmental Engineering

J David Roessner
Ph.D.
Professor Emeritus, Public Policy

Wendy A Rogers
Ph.D. Georgia Institute of Technology
Professor, Psychology

Peter Rogers
Ph.D. Brown University
Professor, Mechanical Engineering

Juan Rogers
Ph.D. Virginia Polytechnic Institute
Associate Professor, Public Policy

Ajeet Rohatgi
Ph.D. Lehigh University
Regents' Professor, Electrical and Computer Engineering

Kathy O Roper
M.S. , Georgia State University
Assistant Professor, Architecture, College of

David W Rosen
Ph.D. University of Massachusetts
Professor, Mechanical Engineering

Catherine L Ross
Ph.D. Cornell University
Director Academic, Architecture, College of

Sue V Rosser
Ph.D. University of Wisconsin, Madison
Dean, Ivan Allen College, and Professor, History, Technology, and Society, Ivan Allen College

Jaroslaw R Rossignac
Ph.D. University of Rochester
Professor, Computing

Frank T Rothaermel
Ph.D. University of Washington
Assistant Professor, Management

William Rouse
Ph.D. Massachusetts Institute of Technology
School Chair-Academic, Industrial and Systems Engineering

Ronald W Rousseau
Ph.D. Louisiana State University, Baton Rouge
School Chair and Cecil J. "Pete" Silas Chair, Chemical and Biomolecular Engineering

Charles F Rudolph
M.S. , Columbia University
Associate Professor, Architecture, College of

Stephen M Ruffin
Ph.D. Stanford University
Associate Professor, Aerospace Engineering

Carolyn D Ruppel
Ph.D. Massachusetts Institute of Technology
Associate Professor, Earth and Atmospheric Sciences

William H Russell
M.S. , University of Illinois Urbana
Assistant Professor, Architecture, College of

Armistead G Russell
Ph.D. California Institute of Technology
Professor, Civil and Environmental Engineering

Massimo Ruzzene
Ph.D. Politecnico di Torino
Assistant Professor, Aerospace Engineering

Carlos A.R. Sa De Melo
Ph.D. Stanford University
Associate Professor, Physics

Ashraf S Saad
Ph.D. Vanderbilt University
Associate Professor, Georgia Tech Savannah

Nader Sadegh
Ph.D. University of California, Berkeley
Associate Professor, Mechanical Engineering

Saeid Lonbani Sadri
Ph.D. Georgia Institute of Technology
Associate Professor, Architecture, College of

Richard F Salant
Ph.D. Massachusetts Institute of Technology
Professor, Mechanical Engineering

Michael D Salomone
Ph.D. University of Pittsburgh
Professor, International Affairs

Athanassios Sambanis
Ph.D. University of Minnesota, Minneapolis, St. Paul
Professor, Chemical and Biomolecular Engineering

Thomas H B Sanders
Ph.D. Georgia Institute of Technology
Regents' Professor, Materials Science and Engineering

Kenneth H. Sandhage
Ph.D. Massachusetts Institute of Technology
Professor, Materials Science and Engineering

Lakshmi N Sankar
Ph.D. Georgia Institute of Technology
Regents' Professor and Associate Chair-Academic, Aerospace Engineering

Juan C Santamarina
Ph.D. Purdue University
Professor, Civil and Environmental Engineering

F Michael Saunders
Ph.D. University of Illinois, Urbana-Champaign
Associate Chair-Academic, Georgia Tech Savannah

Mathieu W Savelsbergh
Ph.D. Erasmus University
Professor, Industrial and Systems Engineering

David S Sawicki
Ph.D. Cornell University
Professor, Architecture, College of

Ashok Saxena
Ph.D. University of Cincinnati
Adjunct Professor, Materials Science and Engineering

William E II Sayle
Ph.D. University of Washington
Associate Chair-Academic, Electrical and Computer Engineering

Michael F Schatz
Ph.D. University of Texas, Austin
Associate Professor, Physics

David E Schimmel
Ph.D. Cornell University
Associate Professor, Electrical and Computer Engineering

Jay H Schlag
Ph.D. Georgia Institute of Technology
Professor Emeritus, Electrical and Computer Engineering

Jonathan Schneer
Ph.D. Columbia University
Professor, History, Technology, and Society

Arnold Schneider
Ph.D. Ohio State University
Professor, Management

Francis Joseph Schork
Ph.D. University of Wisconsin, Madison
Associate Chair and Professor, Chemical and Biomolecular Engineering

Daniel P Schrage
DSC, Washington University
Professor and Director, Center of Excellence in Rotorcraft Technology, Aerospace Engineering

Eric H Schumacher
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Psychology

Gary B Schuster
Ph.D. University of Rochester
Dean, College of Sciences, Vasser Woolley Chair, and Professor, Chemistry and Biochemistry, Sciences, College of

David W Scott
Ph.D. Georgia Institute of Technology
Associate Professor, Georgia Tech Savannah

Waymond R Scott
Ph.D. Georgia Institute of Technology
Professor, Electrical and Computer Engineering

Jerry M Seitzman
Ph.D. Stanford University
Associate Professor, Aerospace Engineering

Carol A Senf
Ph.D. State University of New York, Buffalo
Associate Professor, Literature, Communication and Culture

Nicoleta Serban
Ph.D. Carnegie Mellon University
Assistant Professor, Industrial and Systems Engineering

Marion B Sewer
Ph.D. Emory University
Assistant Professor, Biology

Christina E Shalley
Ph.D. University of Illinois, Urbana
Professor, Management

Philip P Shapira
Ph.D. University of California, Berkeley
Professor, Public Policy

Alexander Shapiro
Ph.D. Ben-Gurion University of the Negev
Professor, Industrial and Systems Engineering

Gunter P Sharp
Ph.D. Georgia Institute of Technology
Associate Professor, Industrial and Systems Engineering

Samuel V Shelton
Ph.D. Georgia Institute of Technology
Associate Professor, Mechanical Engineering

Shyh-Chiang Shen
Ph.D. University of Illinois
Assistant Professor, Electrical and Computer Engineering

Charles David Sherrill
Ph.D. University of Georgia
Associate Professor, Chemistry and Biochemistry

Meisha L. Shofner
Ph.D. Rice University
Assistant Professor, Polymer, Textile, and Fiber Engineering.

David John Shook
Ph.D. University of North Carolina, Chapel Hill
Associate Professor, Modern Languages

Rumiko S Simonds
Ph.D. University of Hawaii, Manoa
Professor, Modern Languages

Tina M Simonton
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Architecture, College of

Anurag Singh
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Mathematics

Preet M Singh
Ph.D. University of New Castle
Associate Professor, Materials Science and Engineering

Vinod R Singhal
Ph.D. University of Rochester
Professor, Management

William E Singhose
Ph.D. Massachusetts Institute of Technology
Associate Professor, Mechanical Engineering

Suresh K Sitaraman
Ph.D. Ohio State University
Professor, Mechanical Engineering

Raghupathy Sivakumar
Ph.D. University of Illinois, Urbana
Associate Professor, Electrical and Computer Engineering

Jeffrey Skolnick
Ph.D. Yale University

Director, Center for the Study of Systems Biology
Professor, Biology

Oskar Skrinjar
Ph.D. Yale University
Assistant Professor, Biomedical Engineering

Marilyn J Smith
Ph.D. Georgia Institute of Technology
Associate Professor, Aerospace Engineering

Marc K Smith
Ph.D. Northwestern University
Professor, Mechanical Engineering

Glenn S Smith
Ph.D. Harvard University
Regents' Professor, Electrical and Computer Engineering

Anderson D Smith
Ph.D. University of Virginia
Vice Provost, Provost-VP Academic Affairs

Terry W Snell
Ph.D. University of South Florida
Associate Chair-Academic, Biology

Robert L Snyder
Ph.D. Fordham University
School Chair-Academic, Materials Science and Engineering

Patricia A Sobecky
Ph.D. University of Georgia
Associate Professor, Biology

Joel S Sokol
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Industrial and Systems Engineering

Irina N Sokolik
Ph.D. Academy Science USSR
Professor, Earth and Atomospheric Sciences

Minjae Song
Ph.D. Harvard University
Assistant Professor, Economics

Jake D Soper
Ph.D. University of Washington
Assistant Professor, Chemistry and Biochemistry

Fotis Sotiropoulos
Ph.D. Ohio State University
Professor, Civil and Environmental Engineering

Phillip B Sparling
EDD, University of Georgia
Professor, Applied Physiology, School of

Robert F Speyer
Ph.D. University of Illinois, Urbana
Professor, Materials Science and Engineering

Daniel H Spieler
Ph.D. Washington State University
Assistant Professor, Psychology

Stephen Spiro
Ph.D. University of Sheffield
Associate Professor, Biology

Mohan Srinivasarao
Ph.D. Carnegie Mellon University
Associate Professor, Polymer, Textile, and Fiber Engineering

Weston M Stacey
Ph.D. Massachusetts Institute of Technology
Regents' Professor, Mechanical Engineering

Thad Starner
Ph.D. Massachusetts Institute of Technology
Associate Professor, Computing

John T Stasko
Ph.D. Brown University
Professor, Computing

Paul G Steffes
Ph.D. Stanford University
Associate Chair-Academic, Electrical and Computer Engineering

Clifford H Stern
M.S. , University of Southern California
Assistant Professor, Architecture, College of

Marc Stieglitz
Ph.D. Columbia University
Associate Professor, Civil and Environmental Engineering

Jeff K Stratman
Ph.D. University of North Carolina, Chapel Hill
Assistant Professor, Management

Jeffrey L Streator
Ph.D. University of California, Berkeley
Associate Professor, Mechanical Engineering

Jeffrey Todd Streelman
Ph.D. University of South Florida
Assistant Professor, Biology

Gordon L Stuber
Ph.D. University of Waterloo
Professor, Electrical and Computer Engineering

Adam N Stulberg
Ph.D. University of California, Los Angeles
Assistant Professor, International Affairs

Terry W Sturm
Ph.D. University of Iowa
Professor, Civil and Environmental Engineering

Ravi Subramanian
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, management

Christopher Summers
Ph.D. University of Reading
Professor, Materials Science and Engineering

Madhavan Swaminathan
Ph.D. Syracuse University
Professor, Electrical and Computer Engineering

Julie L Swann
Ph.D. Northwestern University
Assistant Professor, Industrial and Systems Engineering

Andrzej Swiech
Ph.D. University of California, Santa Barbara
Professor, Mathematics

Margaret Symington
Ph.D. Stanford University
Assistant Professor, Mathematics

Andrzej Szymczak
Ph.D. Georgia Institute of Techology
Assistant Professor, Computing

Martial Taillefert
Ph.D. Northwestern University
Assistant Professor, Earth and Atmospheric Sciences

David Tan
Ph.D. Cornell University Endowed Colleges
Associate Professor, Earth and Atmospheric Sciences

Allen Tannenbaum
Ph.D. Harvard University
Professor, Biomedical Engineering

Allen R Tannenbaum
Ph.D. Harvard University
Professor, Electrical and Computer Engineering

Rina Tannenbaum
Ph.D. Swiss Federal Institute of Technology, Lausanne
Associate Professor, Materials Science and Engineering

W. Robert Taylor
Ph.D. Johns Hopkins University
Associate Professor, Biomedical Engineering

David G Taylor
Ph.D. University of Illinois, Urbana
Professor, Electrical and Computer Engineering

Daniel W Tedder
Ph.D. University of Wisconsin, Green Bay
Associate Professor, Chemical and Biomolecular Engineering

Amyn S Teja
Ph.D. Imperial College Science andTechnology
Regents' Professor, Chemical and Biomolecular Engineering

Jay P Telotte
Ph.D. University of Florida
Professor, Literature, Communication and Culture

Johnna Temenoff
Ph.D. Rice University
Assistant Professor, Biomedical Engineering

Emmanouil M Tentzeris
Ph.D. University of Michigan, Ann Arbor
Associate Professor, Electrical and Computer Engineering

Colleen E Terrell
Ph.D. University of Pennsylvania
Assistant Professor, Literature, Communication and Culture

Prasad Tetali
Ph.D. New York University
Professor, Mathematics

Eugene Thacker
Ph.D. Rutgers State University
Assistant Professor, Literature, Communication and Culture

Naresh N Thadhani
Ph.D. New Mexico I Mn-Tech
Associate Chair-Academic, Materials Science and Engineering

Yonathan S. Thio
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Polymer, Textile, and Fiber Engineering.

Valarie Thomas
Ph.D. Cornell University
Associate Professor, Industrial and Systems Engineering

Robin Thomas
Ph.D. Charles University
Professor, Mathematics

Robert Thomas
Ph.D. Univesity of Georgia
Senior Academic Professional, Management

Linda M Thomas-Mobley
Ph.D. Georgia Institute of Technology
Assistant Professor, Architecture, College of

Marie C Thursby
Ph.D. University of North Carolina, Chapel Hill
Professor, Management

Lena Ting
Ph.D. Stanford University
Assistant Professor, Biomedical Engineering

L. Beril Toktay
Ph.D. Massachusetts Institute of Technology
Associate Professor, Management

Laren M Tolbert
Ph.D. University of Wisconsin, Madison
Professor, Chemistry and Biochemistry

John L Tone
Ph.D. Columbia University
Associate Professor, History, Technology, and Society

Craig A Tovey
Ph.D. Stanford University
Professor, Industrial and Systems Engineering

Rick P Trebino
Ph.D. Stanford University
Professor, Physics

William T Trotter
Ph.D. University of Alabama
School Chair-Academic, Mathematics

Franca Trubiano
Ph.D. McGill University
Assistant Professor, Architecture, College of

Panagiotis Tsiotras
Ph.D. Purdue University
Professor, Aerospace Engineering

Kwok-Leung Tsui
Ph.D. University of Wisconsin, Madison
Professor, Industrial and Systems Engineering

Rao R Tummala
Ph.D. University of Illinois, Urbana
Professor, Electrical and Computer Engineering

Gregory Turk
Ph.D. University of North Carolina, Chapel Hill
Associate Professor, Computing

Deborah H Turner
Ph.D. Georgia State University
Associate Professor, Management

Felix T Uhlik
Ph.D. Pennsylvania State University
Associate Professor, Architecture, College of

Francis M Ulgado
Ph.D. University of Illinois, Urbana
Associate Professor, Management

Jerry A Ulrich
Ph.D. University of Cincinnati
Associate Professor, Architecture, College of

Ifeanyi Charles Ume
Ph.D. University of South Carolina, Columbia
Professor, Mechanical Engineering

Steven W Usselman
Ph.D. University of Delaware
Associate Professor, History, Technology, and Society

Ahmet Turgay Uzer
Ph.D. Harvard University
Regents' Professor, Physics

George Vachtsevanos
Ph.D. State University of New York, Albany
Professor, Electrical and Computer Engineering

Feodor Vainstein
Ph.D. Boston University
Professor, Georgia Tech Savannah

Koert Van Ittersum
Ph.D. Wageningen University
Assistant Professor, Management

John Vande Vate
Ph.D. Massachusetts Institute of Technology
Professor, Industrial and Systems Engineering

Peter Vantine
MBA, Wharton
Lecturer, Management

Patricio Vela
Ph.D. California Institute of Technology
Assistant Professor, Electrical and Computer Engineering

Roshan J Vengazhiyil
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Industrial and Systems Engineering

Erik I Verriest
Ph.D. Stanford University
Professor, Electrical and Computer Engineering

Branislav Vidakovic
Ph.D. Purdue University
Professor, Biomedical Engineering

Raymond P Vito
Ph.D. Cornell University
Associate Dean for Academic Affairs, Engineering, College of

Nick Voigt
M.S. , Georgia Institute of Technology
Lecturer, Management

Eberhard O Voit
Ph.D. Universitat zu Zukoln
Professor, Biomedical Engineering

Paul Voss
Ph.D. Northwestern University
Assistant Professor, Electrical and Computer Engineering

Bruce N Walker
Ph.D. Rice University
Assistant Professor, Psychology

Mitchell L.R. Walker, II
Ph.D. University of Michigan
Assistant Professor, Aerospace Engineering

Dongmei Wang
Ph.D. Georgia Institute of Technology
Assistant Professor, Biomedical Engineering

Yadong Wang
Ph.D. Stanford University
Assistant Professor, Biomedical Engineering

Yuhang Wang
Ph.D. Harvard University
Associate Professor, Earth and Atmospheric Sciences

Yang Wang
Ph.D. Harvard University
Professor, Mathematics

Youjiang Wang
Ph.D. Massachusetts Institute of Technology
Professor, Polymer, Textile, and Fiber Engineering

C K Chris Wang
Ph.D. Ohio State University
Associate Professor, Mechanical Engineering

Fei-Ling Wang
Ph.D. University of Pennsylvania
Professor, International Affairs

Zhong Lin Wang
Ph.D. Arizona State University
Professor, Materials Science and Engineering

Amy R Ward
Ph.D. Stanford University
Assistant Professor, Industrial and Systems Engineering

Yorai Wardi
Ph.D. University of California, Berkeley
Professor, Electrical and Computer Engineering

Roger M Wartell
Ph.D. University of Rochester
Professor, Biology

Roger P Webb
Ph.D. Georgia Institute of Technology
Professor Emeritus, Provost-VP Academic Affairs

Rodney J Weber
Ph.D. University of Minnesota, Minneapolis, St. Paul
Associate Professor, Earth and Atmospheric Sciences

Katja Weber
Ph.D. University of California, Los Angeles
Associate Professor, International Affairs

Peter J Webster
Ph.D. Massachusetts Institute of Technology
Professor, Civil and Environmental Engineering

Donald R Webster
Ph.D. University of California, Berkeley
Associate Professor, Civil and Environmental Engineering

Marcus Weck
Ph.D. California Institute of Technology
Assistant Professor, Chemistry and Biochemistry

Gil Weinberg
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Architecture, College of

Gil Weinberg
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Architecture, College of

Marc J Weissburg
Ph.D. State University of New York, Stony Brook
Associate Professor, Biology

William J Wepfer
Ph.D. University of Wisconsin, Madison
Vice Provost, DLPE-PE Programs

Jane G Weyant
Ph.D. Georgia State University
Assistant Dean for Undergraduate Studies, Engineering, College of

Robert L Whetten
Ph.D. Cornell University
Professor, Chemistry and Biochemistry

Chelsea C White
Ph.D. University of Michigan, Ann Arbor
School Chair-Academic, Industrial and Systems Engineering

Donald W White
Ph.D. Cornell University Endowed Colleges
Professor, Civil and Environmental Engineering

Kurt A Wiesenfeld
Ph.D. University of California, Berkeley
Professor, Physics

Alan W Wilhite
Ph.D. North Carolina State University
Professor, Aerospace Engineering

Cybelle McFadden Wilkens
Ph.D. Duke University
Visiting Assistant Professor, Modern Languages

Angus P Wilkinson
Ph.D. University of Oxford
Professor, Chemistry and Biochemistry

Angus P Wilkinson
Ph.D. University of Oxford
Affiliate, Materials Science and Engineering

Kenneth M Will
Ph.D. University of Texas, Austin
Associate Chair, Graduate Programs and Associate Professor, Civil and Environmental Engineering

Loren D Williams
Ph.D. Duke University
Professor, Chemistry and Biochemistry

Douglas B Williams
Ph.D. Rice University
Associate Chair-Academic, Electrical and Computer Engineering

Linda M Wills
Ph.D. Massachusetts Institute of Technology
Associate Professor, Electrical and Computer Engineering

Donald Scott Wills
Ph.D. Massachusetts Institute of Technology
Professor, Electrical and Computer Engineering

William P Winders
Ph.D. Emory University
Assistant Professor, History, Technology, and Society

Paul H Wine
Ph.D. Florida State University
Professor, Chemistry and Biochemistry

Ward O Winer
Ph.D. University of Cambridge
School Chair-Academic, Mechanical Engineering

Ward O Winer
Ph.D. University of Michigan, Ann Arbor
School Chair-Academic, Mechanical Engineering

Nancy Wong
Ph.D. University of Michigan, Ann Arbor
Assistant Professor, Management

C P Wong
Ph.D. Pennsylvania State University
Regents' Professor, Materials Science and Engineering

John L Wood
Ph.D. Clark University
Professor, Physics

Robert E Wood
Ph.D. University of Virginia
Associate Professor, Literature, Communication and Culture

Brian E Woodall
Ph.D. University of California, Berkeley
Associate Professor, International Affairs

Paul A Work
Ph.D. University of Florida
Associate Professor, Georgia Tech Savannah

Tsz Kei Joseph Wu
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Industrial and Systems Engineering

Chien-Fu Jeff Wu
Ph.D. University of California, Berekley
Professor, Industrial and Systems Engineering

Dongjun Wu
Ph.D. University of Pennsylvania
Associate Professor, Management, College of

Jun Xu
Ph.D. The Ohio State University
Associate Professor, Computing

Sudhakar Yalamanchili
Ph.D. University of Texas, Austin
Professor, Electrical and Computer Engineering

Donggang Yao
Ph.D. University of Massachusetts
Assistant Professor, Polymer, Textile, and Fiber Engineering.

Lisa Yaszek
Ph.D. University of Wisconsin, Madison
Assistant Professor, Literature, Communication and Culture

Wenjing Ye
Ph.D. Cornell University
Assistant Professor, Mechanical Engineering

Jeanette Yen
Ph.D. University of Washington
Professor, Biology

Pui-Kuen Yeung
Ph.D. Cornell University
Professor, Aerospace Engineering

Anthony Joseph Yezzi
Ph.D. University of Minnesota, Minneapolis, St. Paul
Associate Professor, Electrical and Computer Engineering

Soojin Yi
Ph.D. Seoul National University
Assistant Professor, Biology

Yingfei Yi
Ph.D. Jilin University
Professor, Mathematics

Sotira Yiacoumi
Ph.D. Syracuse University
Professor, Civil and Environmental Engineering

Minami Yoda
Ph.D. Stanford University
Associate Professor, Mechanical Engineering

Paul D Yoder
Ph.D. University of Illinois, Urbana
Associate Professor, Georgia Tech Savannah

Ajit Yoganathan
Ph.D. California Institute of Technology
Associate Chair-Academic, Biomedical Engineering

Li You
Ph.D. University of Colorado, Boulder
Professor, Physics

Xing Xing Yu
Ph.D. Vanderbilt University
Professor, Mathematics

Ming Yuan
Ph.D. University of Wisconsin, Madison
Assistant Professor, Industrial and Systems Engineering

Serena M Zabin
Ph.D. University of Illinois, Urbana
Associate Professor, Electrical and Computer Engineering

Abdel Rahman Zaghloul
Ph.D. University of Nebraska, Lincoln
Professor, Georgia Tech Savannah

Andrew Zangwill
Ph.D. University of Pennsylvania
Professor, Physics

Ellen Witte Zegura,
D. Sc. Washington University
Associate Dean and Professor, Computing

Chongchun Zeng
Ph.D. Brigham Young University
Associate Professor, Mathematics

Z John Zhang
Ph.D. University of Wisconsin, Madison
Professor, Chemistry and Biochemistry

Zhuomin Zhang
Ph.D. Massachusetts Institute of Technology
Associate Professor, Mechanical Engineering

Han Zhang
Ph.D. University of Texas, Austin
Assistant Professor, Management

Chen Zhou
Ph.D. Pennsylvania State University
Associate Professor, Industrial and Systems Engineering

Haomin Zhou
Ph.D. University of California, Los Angeles
Assistant Professor, Mathematics

Min Zhou
Ph.D. Brown University
Professor, Mechanical Engineering

Guotong Zhou
Ph.D. University of Virginia
Professor, Electrical and Computer Engineering

Cheng Zhu
Ph.D. Columbia University
Professor, Biomedical Engineering

Ting Zhu
Ph.D. Massachusetts Institute of Technology
Assistant Professor, Mechanical Engineering

Craig M Zimring
Ph.D. Wellesley College
Professor, Architecture, College of

Ben T Zinn
Ph.D. Princeton University
Regents' Professor and David S. Lewis, Jr. Chair, Aerospace Engineering

Abdul Hamid Zureick
Ph.D. University of Illinois, Urbana
Professor, Civil and Environmental Engineering

Five-Year B.S./M.S. Degree Programs

Many schools at Georgia Tech offer five-year B.S./M.S. degree programs that, like the Graduate Course Option, allow eligible students to use up to six credit hours of graduate-level coursework in the major discipline for both degrees. The B.S./M.S. programs typically include research and mentoring components and have their own GPA requirements. More information is available from participating major schools/colleges.

Undergraduate Academic Common Market

The Academic Common Market (ACM) is an interstate agreement for sharing educational programs and facilities, allowing students to participate in selected programs not offered in their home states without having to pay out-of-state tuition charges. The Southern Regional Education Board (SREB) coordinates the activities of the Academic Common Market for the sixteen participating states, which include Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

One of the primary functions of the Academic Common Market is to assist states in offering together what they cannot offer alone. Programs are added to and removed from the Market on an annual basis in order to reflect the changing needs of participating states. The state of Georgia currently makes program changes once annually during the spring.

For a list of undergraduate degree programs non-Georgia residents may study without having to pay out-of-state tuition, as well as the ACM policies and procedures, visit **www.admiss.gatech.edu/acm** or call the Office of Undergraduate Admission at 404.894.4154.

Graduate Academic Common Market

The Institute participates in the Academic Common Market (ACM) Program managed by the Southern Regional Education Board. By interstate agreement, the Market enables southern states to share academic programs. Residents of the participating states who qualify for admission and gain the approval of their state coordinators may enroll on an in-state tuition basis. The Georgia Tech programs currently participating in ACM are graduate programs in building construction and integrated facility management, architecture, city and regional planning, city planning/architecture joint program; as well as undergraduate programs in nuclear and radiological engineering, and polymer and fiber engineering.

Center for the Enhancement of Teaching and Learning (CETL)

The Center for the Enhancement of Teaching and Learning (CETL) was founded in 1986 with a mission to assist faculty and teaching assistants in becoming more effective instructors and hence to improve the learning of Georgia Tech students. CETL offers undergraduate courses in Undergraduate Teaching Assistant Preparation, Fundamentals of Tutoring, and Principles of Learning and Teaching, as well as graduate-level courses in Classroom Management, Academic Writing, and Academic Professionalism. For international graduate students and teaching assistants who need to improve their English communication skills, CETL offers courses in conjunction with the Georgia Tech Language Institute. Finally, CETL offers training and assistantships associated with its National Science foundation-(NSF) sponsored Student and Teacher Enhancement Partnership (STEP) program.

All CETL graduate courses may be taken either for audit or pass/fail, and these hours may not be counted toward any degree requirements. No graduate student may take more than two CETL courses in any one semester, and all of these courses require the permission of both the student's home unit and CETL. A non-credit option remains for those students whose home units will not permit the credit version of any of the courses.

Students wishing to enroll in any of CETL's undergraduate or graduate courses must request a permit through the CETL home page (**www.cetl.gatech.edu**). The STEP courses are only open to participants in the STEP program, which has its own application process. Interested students should contact CETL directly.

Courses offered by the Center for the Enhancement of Teaching and Learning (CETL) can be viewed on the **course catalog** .

Division of Professional Practice (Co-op and Internships)

Georgia Tech believes that obtaining relevant, academically related experience is an integral part of the educational process. In order to achieve that, the Division of Professional Practice offers two methods to attain such experience: the Cooperative Education program and the Undergraduate Professional Internship program.

The Cooperative Plan has been offered at Georgia Tech since 1912. It is a five-year program for students who wish to integrate practical experience with theory learned in the classroom. More than 3,000 students currently participate, working full time on alternate semesters at more than 650 employers throughout the United States (as well as numerous international assignments). Accredited by the Accreditation Council for Cooperative Education, it is one of the largest totally optional programs in the country and the highest ranked program among public universities.

The Co-op Plan is available for all engineering majors as well those studying biology, chemistry, mathematics, physics, computer science, management, economics, earth and atmospheric sciences, international affairs, industrial design, building construction, and science, technology, and culture. The academic curricula are identical to those offered to regular four-year students, and co-ops remain on the school rolls while on work periods by registering for the appropriate co-op courses.

Co-op offers the student practical experience and insight into human relations, as well as financial assistance. The work experience co-ops receive is a valuable asset to graduates starting out in their chosen professions. Neither college laboratory experience nor employment during vacations can take the place of organized co-op training. The plan provides, to a substantial degree, the experience most companies require of their employees before promoting them to positions of higher responsibility. Work experience may also assist students who are undecided about their future plans in determining early in their college careers whether they wish to continue in a particular field.

Moreover, daily contact with diverse groups among their fellow employees offers students practical insight into sociology, psychology, economics, and ethics that no textbook can supply. Finally, students receive compensation for their services from the employer. Typically, co-op students can save enough from their earnings to pay for more than half of their school expenses.

Undergraduate professional internships provide practical experience for students who choose not to follow the Co-op Plan. Although internships normally do not provide the depth provided by the Co-op Plan experience, they are an extremely viable way to obtain out-of-classroom experience. Similar to cooperative education, the jobs and the students’ performance are monitored by the Division of Professional Practice to ensure maximum benefit by all parties.

Students in all majors may participate in the internship program and may work any term during the school year. Numerous international internships are also available.

For more information on either program, visit our Web site at **www.profpractice.gatech.edu**,or write to:

Division of Professional Practice
Georgia Institute of Technology
Atlanta, Georgia 30332-0260

Graduate Cooperative Plan

Selected students planning to enroll for graduate study at Georgia Tech have the opportunity to participate in a unique cooperative program leading to advanced degrees in participating schools. Two plans are available. One is designed for Georgia Tech undergraduates who plan to continue as graduate students at Tech and includes study-work periods that span both undergraduate and graduate levels. Eligibility is based on academic achievement at Georgia Tech. The second plan is for graduate students whose undergraduate degrees may be from Tech or other institutions.

Degree requirements under this plan are identical to those for all students enrolled at Georgia Tech. The Graduate Cooperative Plan is designed as an enhancement to the educational programs of students working for advanced degrees and offers the benefits of added facilities and opportunities for external stimulation. In addition, students receive compensation for their services from companies that employ them.

Preliminary screening of students occurs at the school or college level. The participating companies select students on the basis of academic credentials and interest areas correlated with company activities. Many participating companies require U.S. citizenship or permanent residency. For students planning to participate both at the undergraduate and graduate levels, the program requires at least two work semesters at the undergraduate level and at least two work semesters at the graduate level. Students planning to participate only at the graduate level are required to work at least two semesters.

Academic credit for co-op work is available if the student, with approval of the major school, pursues research at the company that can be used to satisfy requirements for the thesis or other research paper.

Students interested in applying for admission to the Graduate Cooperative Plan should write:

Graduate Cooperative Program,
Division of Professional Practice,
Georgia Institute of Technology,
Atlanta, Georgia 30332-0260.

Cross Enrollment

A. General

1. Students who are enrolled at Georgia Tech may not receive credit for courses completed at another institution during the same academic term, unless prior permission has been obtained for cross enrollment or concurrent registration, as described in this section.
2. With the approval of the student's major school, a student may schedule courses at any one of the colleges or universities comprising the Atlanta Regional Consortium for Higher Education (ARCHE), if such courses are not available in a particular term at Georgia Tech. A list of participating institutions is available from the Office of the Registrar.
3. Cross enrollment also is permitted among institutions participating in the Georgia Tech Regional Engineering Program (GTREP) and selected institutions in the Regents' Engineering Transfer Program (RETP).
4. All cross enrollment registration activities are performed at the student's home institution.
5. For institutions not participating in cross enrollment, a student must apply in advance for permission to be concurrently registered at both Georgia Tech and the other institution.

B. Eligibility

1. Cross enrollment and concurrent registration are available only to degree-seeking juniors, seniors, and graduate students. Ordinarily students will not be allowed to participate during their first term at Georgia Tech, nor will students be allowed to cross enroll for more than two courses per term. Special rules apply to students participating in the GTREP and RETP programs. Any student seeking an exception to these eligibility requirements should contact the Office of the Registrar.
2. To participate in cross enrollment or concurrent registration, a student must be in good standing during the term when the application is processed.
3. During the term of cross enrollment or concurrent registration, the student must be carrying three or more credit hours at Georgia Tech and be in good standing. The total academic load carried at all institutions combined may not exceed the number of hours for which the student would be allowed to register at Georgia Tech.
4. Cross enrollment and concurrent registration courses must be completed with a *C* or better in order to receive credit for the course. Credits earned under cross enrollment will be handled as transfer credit, but will count as resident credit toward a degree. Credits earned under concurrent registration will be handled as regular transfer credit. Grades received in cross enrollment or concurrent registration courses will not be included in the calculation of the grade point average. No credit will be awarded until an official transcript from the participating institution is received by the Georgia Tech **Registrar's Office**.

Distance Learning

Distance Learning and Professional Education (DLPE) enables the delivery of graduate-level courses throughout the state of Georgia, the nation and the world via the Internet (video-on-demand), DVD, and CD-ROM. Selected courses are available at some locations by video teleconferencing and satellite. The courses can be taken with a degree objective or for professional development. Students applying to a graduate program must meet the same admissions criteria as other degree-seeking students. A Master of Science degree can be earned entirely at a distance in the following:

1. Electrical and Computer Engineering
2. Aerospace Engineering
3. Building Construction and Integrated Facilities Management
4. Civil Engineering
5. Electrical and Computer Engineering
6. Environmental Engineering
7. Health Physics/Radiological Engineering
8. Industrial and Systems Engineering
9. Mechanical Engineering
10. Medical Physics
11. Operational Research

Students at remote sites receive class handouts via e-mail, or the Internet, and on CD-ROMs, DVDs, or videotapes of campus lectures. They communicate with their instructor via the Internet, telephone, computer, fax, and/or e-mail.

Some undergraduate courses are offered to Georgia Tech co-op students on work semester. Undergraduate engineering courses are delivered by video teleconferencing to engineering students at Georgia Tech Savannah and to other units of the University System of Georgia.

For more information, visit **www.dlpe.gatech.edu**, call 404.894.3500, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Language Institute

The Language Institute offers classes in English as a second language to international students and professionals from around the world and the local community and provides academic support for international students in degree programs at Georgia Tech. More than 1,000 students attend the programs offered by the Language Institute every year. These programs include an intensive English program designed to prepare international students for academic work at an American university, evening courses for international students and professionals from on and off campus, summer short courses, and online courses.

For information, visit **www.dlpe.gatech.edu**, call 404.894.2425, or write to:

Language Institute
Georgia Institute of Technology
151 6th Street N.W.
Atlanta, Georgia 30332-0374

Professional Education

Distance Learning and Professional Education (DLPE) coordinates the delivery of non-credit short courses and professional development programs to the public and to corporate clients. Programs are held on campus and at other selected locations in the United States and other countries. Professional education programs can also delivered via distance learning technologies.

Short courses, varying in length from one to five days, are offered throughout the year to assist professionals with acquiring knowledge of different fields and new technologies. Courses are offered on various topics in architecture, engineering and technology, science, health systems, management, economic development, and computing. There are thirty-four certificate programs comprised of sequences of short courses offered in the various topics listed above.

For information, visit **www.dlpe.gatech.edu**, call 404.385.3500, fax to 404.894.7398, or write to:

Distance Learning and Professional Education
Georgia Institute of Technology
Global Learning and Conference Center
84 Fifth Street N.W.
Atlanta, Georgia 30308-1031

Georgia Tech Lorraine

Located in France in the Metz Technopôle, a technology park in the Lorraine region, Georgia Tech Lorraine (GTL) serves as the Georgia Institute of Technology campus in Europe. GTL conducts graduate education in engineering and computer science, has ongoing programs of basic and applied research, and offers continuing education courses.

At GTL, students can pursue regular academic programs of Georgia Tech while immersed in the rich culture of Europe. Instructional programs leading to master's degrees and Ph.D.s in electrical and computer engineering, mechanical engineering, and computer science are available to graduate students throughout the year. In addition, double-degree programs that lead to both a Georgia Tech degree and a diploma from a European university have been developed. Undergraduate summer programs in engineering, humanities, management, and social sciences are offered to any qualified student.

Starting in the fall of 2006, undergraduate students in electrical and computer engineering, mechanical engineering, and computer science who are in their third year of study in 2006-2007 will have the opportunity to participate in the International Plan (IP). Courses specifically designed to fulfill the student's major and IP requirements will be offered on the Lorraine campus.

All instruction at GTL is in English. French language courses are also available to enhance students' experience as well as to enable students to participate in a double-degree program.

GTL operates in a 50,000-square-foot building that houses classrooms, academic and research laboratories, student lounges, conference rooms, and a library, along with faculty and staff offices. Student housing is available for all GTL students. Many student-oriented facilities are available close to the GTL campus, along with the diverse cultural and entertainment resources of the city of Metz.

For more information, contact GTL at 404.894.0076 or +33 387 20 3939. You may also e-mail GTL below.

Georgia Tech Honors Program

The Georgia Tech Honors Program combines the challenging academic standards of one of the finest technological universities in the world with the closer connections between students and faculty one might expect to find in a small, selective college. The goal is to create a lively learning environment in which students and faculty members learn from each other through a common commitment to intellectual inquiry, careful analysis, and the energetic exchange of ideas. To promote and sustain this sort of close engagement between students and faculty, the Honors Program offers several features for students in the first two years of their studies at Georgia Tech, including the following:

1. an Honors Program residence
2. small sections of standard introductory courses
3. a sequence of small, topically oriented seminars
4. informal colloquia
5. a system of careful advising

The International Plan

The International Plan is a challenging and coherent academic program for undergraduates that is designed to develop global competence within the context of a student's major. It is a degree-long program that integrates international studies and experiences into any participating major at Georgia Tech. It helps to prepare Georgia Tech graduates professionally and personally for successful lives in the twenty-first century.

The International Plan is not intended to replace current international programs; it supplements them. Existing study abroad opportunities continue to be offered. It is also not intended to be an add-on to the current degree programs. It is intended to be another curriculum path to earn a degree in which international competence is integrated into the program of study. The plan can be completed within the normal time frame of four years of undergraduate study.

The overarching model for the International Plan has four components:

1. International Coursework: three courses, to include one from each of the following categories
    1. **International relations**
    2. **Global economics**
    3. **A course about a specific country or region**
2. International Experience: Two terms abroad (not less than twenty-six weeks) engaged in any combination of study abroad, research, or internship
3. Second language proficiency: All students in the program are expected to reach at least the proficiency level equivalent to two years of college-level language study. Students who use the language to study, conduct research, or participate in an internship during their international experience are expected to attain a higher level of proficiency. Language proficiency is determined by testing (not course credits).
4. Culminating Course: A capstone course in the major designed to tie the international studies and experiences together with the student's major

Completion of the International Plan is recognized by a designation on the student's diploma indicating completion of the degree with global competence, e.g., "B.S. in Electrical Engineering: International Plan."

For additional information about the International Plan visit **www.oie.gatech.edu/internationalplan**.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe Since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	

HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		

FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		

JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Joint Enrollment Program for High School Students

High school students who have completed tenth or eleventh grade and have academic credentials comparable to those of scholastically superior first-year students at Tech may take courses at Georgia Tech. Courses taken at Georgia Tech will normally be at a level beyond those available in the student's high school. Courses completed at Georgia Tech can be used to satisfy high school requirements and will also carry college credit. Interested students should consult their high school counselor for specific program requirements. Applications for the program are available from the Office of Undergraduate Admission or **www.admiss.gatech.edu/jointenrollment**.

Learning Support

The Office of the Vice Provost for Undergraduate Studies and Academic Affairs (VPUSAA) administers the Learning Support Program. The College of Sciences offers college preparatory courses in mathematics, and the Ivan Allen College of Liberal Arts offers courses in reading and English composition for students who need further preparation before taking credit courses in English, mathematics, and history.

Students who are required by the Institute to take courses in the Learning Support Program will be notified in writing. They must then either test out of the program or register for the required course(s) before they can register for any credit courses that require Learning Support (LS) courses as prerequisites.

Students can test out of taking LS courses by passing the appropriate Georgia Collegiate Placement Exams (GCPEs) administered before the beginning of each semester through the Office of the VPUSAA. Students who do not pass the appropriate examinations prior to their first semester in residence must register for the required LS courses. Students must pass all required LS courses and the appropriate GCPEs within their first three semesters in residence in order to register for any further coursework. No more than twenty hours of degree credit work may be earned prior to exiting Learning Support.

In addition to those students who are required by the Institute to take LS courses, any student who desires further preparation may register for one or more courses. LS courses are not prerequisites to credit courses when taken on this elective basis.

LS courses are offered on a pass/fail basis and may not be counted as hours toward graduation.

NOTE: *Figures below the course number and name signify the number of class hours per week, the number of laboratory hours per week, and the semester-hour credit earned for the completed course, respectively.*

LEARNING SUPPORT

LS 0198. Reading Skills

3-0-3
Development of reading comprehension and speed, vocabulary, and study skills. Review of grammar and usage.

LS 0298. English Skills

3-0-3
Development of basic skills used in writing the sentence, paragraph, and short essay. Development of reading speed.

LS 0398. Mathematical Skills

3-0-3
Intensive review of arithmetic and algebra skills. Development of mathematics study skills.

Multidisciplinary and Certificate Programs

Multidisciplinary Programs in the College of Engineering and Certificate Programs in the College of Sciences, the Ivan Allen College of Liberal Arts, and the College of Management offer students in good standing an opportunity to broaden their areas of expertise or acquire skills or information beyond their major degree requirements. Students interested in pursuing these programs should consult with their major school advisors.

PRESIDENT's SCHOLARSHIP PROGRAM

The President's Scholarship is Georgia Tech's premier merit-based scholarship. Recipients are selected from the top applicants for admission to Georgia Tech, based on demonstrated excellence in academic and leadership performance. From the applicant pool, students selected as semifinalists will submit teacher recommendations and be interviewed. The top semifinalists will be named finalists and invited with their parents to campus for an interview and information weekend in March. Current Georgia Tech students, transfer students, and international students are not eligible.

Each year, approximately sixty incoming freshmen receive President's Scholarships, which are renewable for up to four academic years, contingent upon honors-level performance and continued leadership development as evidenced by involvement in campus or community activities. Awards for students who entered in fall 2005 were worth up to a full ride, including tuition, room and board, books, fees, and personal expenses. See the Web page below for more information on stipends. Amounts for future years may change.

To be considered, a student must be a U.S. citizen or permanent resident, apply as an incoming freshman, and submit the Georgia Tech Application for Freshman Admission, along with the application fee, with a postmark no later than October 31 of the senior year.

For more information, contact the President's Scholarship Program at 404.894.1615, via e-mail below, or via the Web at **www.psp.gatech.edu**.

Pre-Professional Programs

Georgia Tech degree programs offer a well-balanced basic education in addition to outstanding training in the chosen field. As such, they provide an excellent basis for subsequent study of medicine, dentistry, veterinary medicine, or law. These professional programs typically require a limited number of courses in specific areas, which, if not required as a part of the student's Georgia Tech degree program, may be included as electives. Each academic department has Pre-Professional advisors who advise students in structuring their programs of study to include the necessary courses to qualify for admission to professional school.

Georgia Tech has elected not to have majors designated as premedicine, predentistry, or prelaw. This approach to Pre-Professional education has two major advantages. First, students who elect not to enter professional school upon graduation are prepared for alternative careers immediately. Second, students who do continue to professional school have backgrounds that often provide them with unique opportunities within their selected professions. Examples include medical research, development of medical devices and apparatus, patent law, or the legal aspects of design and construction.

Professional schools typically admit students with strong academic credentials, a well-balanced education, good communication skills, and a broad range of experiences. With the appropriate selection of elective courses, most majors at Georgia Tech provide suitable preparation for professional school in any area. No specific major offers an obvious competitive advantage in assuring admission to professional schools. The best choice of major is usually the one in which the student has the greatest inherent interest.

Undergraduate Research Opportunities Program

The Undergraduate Research Opportunities Program (UROP) facilitates research experiences for undergraduates across all disciplines. UROP creates initiatives to encourage students to participate in the knowledge creation and research enterprise with Georgia Tech's world-class faculty. Students can participate in laboratory, scientific, or computing research, or be involved in new discoveries in literature, social sciences, architecture, or business. Undergraduate students can participate in part-time or full-time research for course credit or pay. Opportunities are available Institute-wide, within specific colleges and schools, or in interdisciplinary settings. Additional opportunities include the President's Undergraduate Research Awards (PURA), Research Option, spring symposia, and research best practices workshops and training sessions.

For information on how to participate, visit **www.undergradresearch.gatech.edu**.

The Research Option

Undergraduate research offers students a unique opportunity to apply knowledge in a meaningful, real-world context to solve problems and explore issues no one has ever addressed before. Students doing undergraduate research also have the chance to develop deeper relationships with faculty and graduate students, and to add a resumé item that will make them stand out to both graduate schools and potential employers.

The research option offers students the opportunity for an in-depth research experience. While the exact requirements for a research option vary by academic unit, students typically take the following steps:

1. Complete at least nine units of undergraduate research.
    1. Over at least two, preferably three terms.
    2. Research may be for either pay or credit (specific option plans differ by department).
        1. For research for pay to count towards Research Option, you must register for an audit-only class (2698 or 4698 in most but not all academic units).
2. Take the class LCC 4700 Writing an Undergraduate Thesis or equivalent during the thesis-writing semester.
3. Write an undergraduate thesis/report of research on their findings.

For more information and a list of participating schools, visit **www.undergradresearch.gatech.edu**.

ROTC

Georgia Tech offers three voluntary ROTC programs: Army, Navy, and Air Force.

Depending on the student's major, Basic and Advanced ROTC classes count as a portion of elective credit. (Students may apply a maximum of four hours in Basic ROTC courses and six hours in Advanced ROTC courses toward meeting the free elective requirements for any degree.) Consult specific colleges to determine the amount of hours that will count toward a degree. After earning a baccalaureate degree and completing the Advanced ROTC courses for any of the three services, a student may receive a commission as an officer in either the reserve or active forces.

Students accepted into the program earn more than just money for a college degree. Cadets and midshipmen receive training and experience in the one quality which is always in great demand: Leadership.

Summer Language Program

The School of Modern Languages offers special summer immersion programs in China, France, Germany, Japan, Mexico, and Spain. These intensive programs in Languages for Business and Technology (LBAT) consist of six to eight weeks of study abroad in which classroom lessons in business, culture, and technology are combined with fieldwork, cultural events, excursions, and visits to area businesses, all conducted in the target language. The professional visits provide students with firsthand experience of business life, the protocols and strategies of business transactions, and a heightened awareness of the current issues facing the economy of the host country. The LBAT experience offers a unique opportunity for rapid growth in proficiency, to build a deeper appreciation for the cultures and lifestyle patterns of other peoples, and to make lifelong social and professional contacts.

Students will earn nine semester hours at the 3000 level (or twelve hours in Spanish when combining Mexico-six hours-and Spain-six hours). These credits count toward a certificate, a minor, or joint majors offered by the school of Modern Languages with the School of International Affairs or the School of Economics. Program costs vary according to the country visited and the length of the program. In cooperation with Kennesaw State University, the school of Modern Languages offers a similar immersion program in China. The HOPE scholarship applies. See **www.modlangs.gatech.edu** for more information.

Dual Degree Program

Under the Dual Degree Program, students attend the participating Dual Degree school for three years and then come to Georgia Tech for approximately two years. Students participating in the Dual Degree Program may seek a degree from any undergraduate degree-granting program in the College of Engineering. Upon completion of the program, the student receives a bachelor's degree from the first school and a bachelor's degree in one of the engineering disciplines at Georgia Tech.

Participating in the Dual Degree Program are many of the schools in the University System of Georgia, including Morehouse College, Spelman College, Clark Atlanta University, and other traditionally black colleges and predominantly women's colleges in the Southeast. For additional information on either of these programs, contact the College of Engineering at Georgia Tech or the Regents' Engineering Transfer Program (RETP) or Dual Degree coordinator at a participating RETP or Dual Degree institution.

Regents’ Engineering Transfer Program

The Regents' Engineering Transfer Program (RETP) is a cooperative program between Georgia Tech and fourteen colleges in the University System of Georgia:
Albany State University
Armstrong Atlantic State University
Columbus State University
Dalton State College
Gainesville College
Georgia Perimeter College
Georgia Southern University
Macon State College
Middle Georgia College
North Georgia College and State University
Savannah State University
Southern Polytechnic State University
State University of West Georgia
Valdosta State University

For the first two years, students in this program attend one of the participating institutions, where they take all of the mathematics and science and many of the engineering courses required in the first two years of the Georgia Tech engineering curricula. Upon successful completion of the RETP requirements at the RETP institution, students are admitted to Georgia Tech to work toward completion of a Bachelor of Science in Engineering degree.

By enrolling in RETP, students may attend a college close to home, thereby decreasing the cost of their education and easing the adjustment to college life. At the same time, RETP students enjoy many of the advantages of Tech students: they have equal access to engineering majors at Tech, they can participate in the co-op program, and they are invited to the Tech campus once a year for campus tours, information sessions, and meetings with advisors in their engineering majors.

Billing Information

The Bursar's Office does not mail invoices to students. A complete Student Invoice Statement is available to students via the **Web Student Access System**. Any changes that adjust tuition and fees (e.g., adding credit hours or a meal plan, making a payment, or canceling a parking permit) will be updated immediately to show the most current information on the account. The Web invoice also facilitates online payment options for WebCheck payments.

For more information, refer to **www.bursar.gatech.edu/student/payment.htm**. It is the student's responsibility to make sure that all requirements of his or her account are satisfied by the deadlines. All questions concerning fees and refunds should be directed only to the Bursar's Office. Verbal misinformation is not grounds for a waiver of a regulation. All tuition and other charges are subject to change without notice.

To access a Student Invoice Statement, go to the **Web Student Access System**. The menu selections are: Secured Access Login (enter student's ID and PIN), Student Services and Financial Aid, Registration, and Student Invoice Statement and Web Payment Options. All notices concerning billing are sent to the student's Georgia Tech e-mail account, which is considered the student's official point of contact.

Fee Payment

All fees are payable by the deadline published on the Official School Calendar (www.registrar.gatech.edu) and on the Bursar's Office Web page (**www.bursar.gatech.edu**) for each academic term. Registration is not complete until all fees have been paid. The Institute reserves the right at any time during the semester to drop any student from classes for failure to pay fees. In no case will a regulation be waived or an exception be granted because a student pleads ignorance of the regulation or asserts that he or she was not informed of it by an advisor or other authority. Students who owe the Institute money and have been placed on "Hold" because of failure to pay may have their accounts placed for collection by a professional collection agency, with the student incurring the full costs of collection. Payment may be made with cash (U.S. dollars); a check payable in U.S. currency and drawn on a financial institution located in the United States (checks must be made payable to Georgia Tech and have the checking account number encoded); or cashier's check. Georgia Tech will not accept credit card payments directly for payment of tuition, fees, and room and board that appear on the student's account summary. Credit card payments can only be made via the Web Student Access System (**https://oscar.gatech.edu**) and will be processed by Georgia Tech's vendor. You will be charged a service fee of 2.75 percent by the vendor for this service. (No fee will be charged for WebCheck transactions.) MasterCard, American Express and Discover (credit and debit), and WebChecks will be accepted when payments are made through OSCAR. VISA credit, debit, or check cards will not be accepted. Credit card payments cannot be made by mail, phone, fax, or in person.

Late Registration Fees

Students who do not meet fee payment deadlines may incur penalty fees. If a student does not pay all required fees by the published fee deadlines, his or her registration may be cancelled. The late payment fee is $75.

Mandatory Student Fees

The student fees listed are subject to change and should be considered estimates for use in planning future payments. See **www.bursar.gatech.edu** for current information. All students registered for four or more semester hours are charged the mandatory student fees, which are due at the same time as tuition charges. These mandatory student fees are considered part of the registration process and must be paid in full for the student to be considered enrolled in school. The student activity, athletics, recreation, technology, transportation, and health fees are the mandatory student fees that are used to provide cultural, social, and athletic programs for the entire student body. In addition, these fees provide financial support for student facilities at the Institute, guest speakers and lecturers, student publications, and many special events that are available exclusively for the students of Georgia Tech. These fees also assist in defraying shuttle costs for transporting students around campus. The technology fee supports the infrastructure necessary to provide students with the latest technology in regards to online computing services. Students registering for fewer than four semester hours are required to pay the technology and transportation fees.

Tuition & Fee Rates

The most current information on tuition and fees will be available at **http://www.bursar.gatech.edu/tuiandfee.php**. The tuition and fees listed are estimated and subject to change. These amounts should be used only as a planning guide for future payments. See **www.bursar.gatech.edu** for the latest information on tuition and fees. Tuition charges can vary based on state residency status and degree program. Residency status will be determined by the Admissions Office at the time of acceptance. Students will either be classified as a resident or non-resident of Georgia for tuition purposes in accordance with the regulations of the Board of Regents of the University System of Georgia. Students registering for fewer than twelve semester hours will be charged tuition by the hour. When students register for twelve hours, they have reached the tuition charge plateau and will not be charged tuition for any additional hours for which they register. The tuition charges are what a student can anticipate based on residency status and degree program of study.

Choosing a Payment Option

Check Payments on the Web:

The Bursar's Office accepts check payments over the Web. To make a payment to an account, go to https://oscar.gatech.edu. The menu selections are: Secured Access Login (enter student ID and PIN), Student Services and Financial Aid, Registration, and Student Invoice Statement and Web Payment Options. The check payment link is at the bottom of the page.

Mail In:

Make all checks or money orders payable to the Georgia Institute of Technology. The student's ID number must be clearly printed on all checks or money orders. Payments must be received (not postmarked) by 4:00 p.m. on the fee deadline date. Mail to the following address: Georgia Institute of Technology, Bursar's Office, Lyman Hall, 225 North Avenue, Atlanta, Georgia 30332-0255.

On Campus:

Students who pay in person should bring their cash or check to the Bursar's Office Cashier Window; First Floor, Lyman Hall. Payment by check or money order can be deposited in the drop box (entry vestibule to Lyman Hall) at any hour of the day before the fee deadline. Do not put cash in the drop box.

Prepayments:

Prepayment of fees will be accepted; however, prepayment does not guarantee the student will successfully register for any or all classes needed. It is the student's responsibility to properly register for classes by the registration deadline.

Fee Payment Using Financial Aid:

All tuition waivers, financial aid, scholarships, and fellowships awarded will be disbursed to the student's account and applied to any outstanding balances. Financial aid is initially estimated and has not actually been disbursed. The "Balance Due" for a student is reduced by this estimated amount. Actual disbursements begin approximately one week prior to the fee deadline. It is the student's responsibility to ensure that all funds are properly credited by the fee deadline date by reviewing his or her student Web invoice. If funds are not/will not be disbursed or credited by the fee deadline, the student may be eligible to request a deferment from Student Financial Planning and Services. Deferments must be requested and will be granted only for the lesser of the amount of the financial aid award or the amount due to the Institute.

Disbursement of Financial Aid Checks:

Financial aid processed by the Office of Student Financial Planning and Services will be applied directly to the student's account in the Bursar's Office. If a credit balance exists after all charges have been posted, the Bursar's Office will forward a check to the student's campus post office box, or it will be deposited into the student's bank account. Many financial aid programs (including the HOPE scholarship, Federal Pell Grant, and Stafford Loan) do not require that the student be enrolled full time in order for disbursement to occur. However, because some scholarships and grants do require full-time study, and some aid programs require registration for at least six hours of courses for disbursement, students who are planning to enroll for fewer than twelve hours and who are unsure of the requirements are advised to seek clarification from the Office of Student Financial Planning and

Services.

Returned Checks

If a check is returned from the bank (insufficient funds, stop payment, etc.), the student will be required to redeem the returned check with cash or a cashier's check in the Bursar's Office. A returned check fee will be added to the amount of the check. Returned checks remaining unredeemed after a reasonable period of time may be forwarded to a collection agency with the student bearing the additional collections costs. Students who have three checks returned against their Georgia Tech accounts will be denied future check-writing privileges.

Checks returned against a student's fees might subject the student's classes to cancellation. If the student intends to withdraw from Georgia Tech, it remains the student's responsibility to formally withdraw via the **Web Student Access System** (see "**Procedures for Withdrawal**").

Refunds for Students with Financial Aid

A calculation will be made on all financial aid recipients to determine whether a student who completely withdraws during a term has "earned" the monies disbursed. Students "earn" their aid based on the period of time they remain enrolled. During the first 60 percent of the term, a student earns financial aid funds in direct proportion to the length of time the student remains enrolled. Beyond the 60 percent point, all aid is considered earned. The responsibility to repay "unearned" aid is shared by the Institute and the student in proportion to the aid each is assumed to possess. The most current refund schedule (actual dates) can be found at **www.bursar.gatech.edu**.

Refund Policy

The refund amount for students withdrawing from the Institute shall be based on a pro rata percentage determined by dividing the number of calendar days in the semester that the student completed by the total number of calendar days in the semester. The total number of calendar days in a semester is calculated by using the first day of class through the last day of final exams for the Institute and excludes scheduled breaks of five or more consecutive days. Institutional charges will be refunded up to the point in time that the percentage equals 60 percent. Students who withdraw from the Institute when the calculated percentage of completion is greater than 60 percent are not entitled to a refund of any portion of institutional charges. A full refund (100 percent) will be available to students who fully withdraw from the Institute or to students who drop individual courses by the end of late registration, if they cease to be enrolled at least full time (twelve hours). No further refunds will be given for individual classes dropped after the end of late registration.

Cancellation of Registration

Students who register for classes and do not attend must cancel classes online. Failure to do so will result in awarded financial aid being applied to the student's account. Non-attendance then results in the student receiving a grade of *F* in each course.

Classification of Students for Tuition Purposes

Under the Constitution and laws of Georgia, the Board of Regents of the University System of Georgia was created to govern, control, and manage a system of public institutions providing quality higher education for the benefit of Georgia citizens. The state, in turn, receives substantial benefit from individuals who attend or have attended these institutions through their significant contributions to the civic, political, economic, and social advancement of the citizens of Georgia.

Because the overwhelming proportion of financial support for the operation of the public institutions of higher education in Georgia comes from the citizens through the payment of taxes, the determination of whether a student is classified as a resident or a nonresident of the state for tuition purposes becomes a significant matter. The tuition paid by in-state students covers only about one-fourth of the total cost of their education in the University System. Therefore, Georgia taxpayers are contributing three-fourths of the necessary funds to provide quality education for the citizens of the state.

The practice followed by state colleges and universities of assessing out-of-state students a higher tuition rate is a rational attempt by states to achieve a partial cost equalization between those who have and those who have not recently contributed to the state's economy, even though no precise way exists to determine the degree to which higher tuition charges equalize the cost of educating in-state and out-of-state students.

Courts that have been faced with challenges to residency classification procedures have consistently recognized the right of public institutions of higher education to charge higher rates to out-of-state students and to adopt reasonable criteria for determining the establishment of in-state status.

For the purpose of these regulations, the question to be answered is not primarily whether a student is a resident or nonresident of Georgia, but whether the student should pay University System fees on an in-state basis. The term "resident" is confusing because it may have several definitions as it relates to voter registration, driver's licenses, automobile registration, deeds, contracts, wills, income taxes, and other matters. A student may be a resident of Georgia for some purposes, but not entitled to in-state status for tuition purposes.

The Board of Regents has adopted certain policies governing the classification of students as residents and nonresidents for tuition purposes in keeping with its responsibilities to the citizens of Georgia for an appropriate assessment of fees and reasonable share of the cost of their education. The taxpayers of Georgia are thereby assured that they are not assuming the financial burden of educating persons whose presence in the state is not intended to be permanent.

With these considerations in mind, the Board of Regents has adopted the following policies governing the classification of students for fee payment purposes.

1. If a person is eighteen years of age or older, he or she may register as an in-state student only upon showing that he or she has been a legal resident of Georgia for a period of at least twelve months immediately preceding the date of registration. Exceptions:
    1. A student whose parent, spouse, or court-appointed guardian is a legal resident of the state of Georgia may register as a resident providing the parent, spouse, or guardian can provide proof of legal residency in Georgia at least twelve consecutive months immediately preceding the date of registration.

    2. A student who previously held residency status in Georgia, but moved from the state then returned to the state within twelve or fewer months.

    3. Students who are transferred to Georgia by an employer are not subject to the durational residency requirement.

2. No emancipated minor or other person eighteen years of age or older shall be deemed to have gained or acquired in-state status for tuition purposes while attending any educational institution in this state, in the absence of a clear demonstration that he or she has in fact established legal residence in this state.
3. If a parent or legal guardian of a student changes his or her legal residence to another state following a period of legal residence in Georgia, the student may retain his or her classification as an in-state student as long as he or she remains continuously enrolled in the University System of Georgia, regardless of the status of his or her parent or legal guardian.
4. In the event that a legal resident of Georgia is appointed by a court as guardian of a nonresident minor, such minor will be permitted to register as an in-state student providing the guardian can provide proof that he or she has been a resident of Georgia for the twelve months immediately preceding the date of the court appointment.
5. Aliens shall be classified as nonresident students provided, however, that an alien who is living in this country under an immigration document permitting indefinite or permanent residence shall have the same privilege of qualifying for in-state tuition as a citizen of the United States.

Out-of-State Tuition Waivers

An institution may waive out-of-state tuition and assess in-state tuition for:

1. **Academic Common Market**. Students selected to participate in a program offered through the Academic Common Market;
2. **International Students**. International students selected by the institutional president or an authorized representative, provided the number of such waivers does not exceed 2 percent of the equivalent full-time students enrolled at the institution in the fall term immediately preceding the term for which the out-of-state waiver is to be waived; www.oie.gatech.edu
3. **University System Employees and Dependents**. Full-time employees of the University System, their spouses, and their dependent children;
4. **Full-time School Employees**. Full-time employees in the public schools of Georgia or of the Department of Technical and Adult Education, their spouses, and their dependent children. Teachers employed full-time on military bases in Georgia shall also qualify for this waiver (BR Minutes, 1988-89, p.43);
5. **Career Consular Officials**. Career consular officers, their spouses, and their dependent children who are citizens of the foreign nation that their Consulate office represents and who are stationed and living in Georgia under orders of their respective governments;
6. **Military Personnel**. Military personnel, their spouses, and their dependent children stationed in or assigned to Georgia and on active duty are eligible to receive a military waiver of non-resident fees;
7. **Nonresident Graduate Students** who hold teaching or research assistantships requiring at least one-third time service at the institution; Contact your major school
8. **National Guard Members**. Full-time members of the Georgia National Guard, their spouses, and their dependent children (BR Minutes, April 1998, pp. 16-17); Military personnel
9. **Direct Exchange Program Students**. Any international student who enrolls in a University System institution as a participant in a direct exchange program that provides reciprocal benefits to University System students; and www.oie.gatech.edu
10. **Families Moving to Georgia**. A dependent student who, as of the first day of the term of enrollment, can provide documentation supporting that his or her supporting parent or court-appointed guardian has accepted full-time, self-sustaining employment and established domicile in Georgia for reasons other than gaining the benefit of favorable tuition rates may qualify immediately for an out-of-state tuition differential waiver, which will expire twelve months from the date the waiver was granted. An affected student may petition for residency status according to established procedures at the institution.
11. **Academically Outstanding Graduate Students**. School chairs may recommend a limited number of academically outstanding nonresident, full-time graduate students for a waiver of nonresident tuition. www.finaid.gatech.edu

Students who come to Georgia Tech from another state and work for companies in Georgia remain ineligible for in-state tuition in the absence of compelling evidence of intent to remain in Georgia permanently. Having Georgia voter registration, having employment in any position normally filled by a student (such as co-op, graduate research assistant, or graduate teaching assistant), having a lease of living quarters, having a Georgia automobile registration, and having a Georgia driver's license do not constitute sufficient evidence of domicile to affect classification as an in-state student under the Regents' policy.

For further information concerning residency, students should contact the Residency Office in room 103 of the Administration Building on campus, in writing to Ga Tech, Residency Office, Atlanta Ga, 30332-0315, or by phone at 404.894.4150. Information can also be found on the Registrar's Web site at **www.registrar.gatech.edu**. The Residency Office must receive an application for classification as a legal resident for fee payment purposes no later than one month prior to the academic registration date for the term in which the student seeks to pay fees as a resident of Georgia. Requests for tuition waivers must be received by the Registrar's Office no later than one month prior to the last day of registration for the term for which the out-of-state tuition is to be waived.

Tuition Information

Tuition and fees are estimated and subject to change. These amounts should be used only as a planning guide for future payments. See **www.bursar.gatech.edu** for the latest information on tuition and fees. Tuition charges can vary based on state residency status and degree program. Residency status will be determined by the Admissions Office at the time of acceptance. Students will either be classified as a resident or non-resident of Georgia for tuition purposes in accordance with the regulations of the Board of Regents of the University System of Georgia.

Students registering for fewer than twelve semester hours will be charged tuition by the hour. When students register for twelve hours, they have reached the tuition charge plateau and will not be charged tuition for any additional hours for which they register. A student can anticipate tuition charges based on residency status and degree program of study. See **www.bursar.gatech.edu** for the latest information on tuition and fees.

Undergraduate Financial Assistance

The Office of Student Financial Planning and Services (OSFP&S) is dedicated to helping students and parents obtain the financial aid necessary to pay for a college education at Georgia Tech. The OSFP&S accomplishes this by awarding federal, state, and Institute funds to students and by directing students to other sources of aid. Additionally, the OSFP&S serves as the disbursement and delivery agent for all sources of assistance for students, including awards for Georgia Tech students from outside agencies.

All undergraduate students, including transfer students, who are interested in scholarships, grants, loans, and/or work opportunities for any semester of the academic year beginning in the fall semester must submit the "Georgia Tech Application for Scholarships and Financial Aid" and the "Free Application for Federal Student Aid" (FAFSA). The priority application deadline for entering freshmen is March 1. The deadline for returning undergraduate and transfer students is May 1.

For additional information, visit **www.finaid.gatech.edu** or contact the Office of Student Financial Planning and Services, Georgia Institute of Technology, Atlanta, Georgia 30332-0460.

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2. **International Students**. International students selected by the institutional president or an authorized representative, provided the number of such waivers does not exceed 2 percent of the equivalent full-time students enrolled at the institution in the fall term immediately preceding the term for which the out-of-state waiver is to be waived; www.oie.gatech.edu
3. **University System Employees and Dependents**. Full-time employees of the University System, their spouses, and their dependent children;
4. **Full-time School Employees**. Full-time employees in the public schools of Georgia or of the Department of Technical and Adult Education, their spouses, and their dependent children. Teachers employed full-time on military bases in Georgia shall also qualify for this waiver (BR Minutes, 1988-89, p.43);
5. **Career Consular Officials**. Career consular officers, their spouses, and their dependent children who are citizens of the foreign nation that their Consulate office represents and who are stationed and living in Georgia under orders of their respective governments;
6. **Military Personnel**. Military personnel, their spouses, and their dependent children stationed in or assigned to Georgia and on active duty are eligible to receive a military waiver of non-resident fees;
7. **Nonresident Graduate Students** who hold teaching or research assistantships requiring at least one-third time service at the institution; Contact your major school
8. **National Guard Members**. Full-time members of the Georgia National Guard, their spouses, and their dependent children (BR Minutes, April 1998, pp. 16-17); Military personnel
9. **Direct Exchange Program Students**. Any international student who enrolls in a University System institution as a participant in a direct exchange program that provides reciprocal benefits to University System students; and www.oie.gatech.edu
10. **Families Moving to Georgia**. A dependent student who, as of the first day of the term of enrollment, can provide documentation supporting that his or her supporting parent or court-appointed guardian has accepted full-time, self-sustaining employment and established domicile in Georgia for reasons other than gaining the benefit of favorable tuition rates may qualify immediately for an out-of-state tuition differential waiver, which will expire twelve months from the date the waiver was granted. An affected student may petition for residency status according to established procedures at the institution.
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Outside Sponsorships

A student whose tuition and fees are to be paid by a corporation or government sponsor must notify the Bursar's Office of the entity's billing address and the amount to be billed at least sixty days prior to the first fee payment deadline (Phase 1) of each semester. As a courtesy to students, the Bursar's Office will send a billing statement

President's Scholarship Program

The President's Scholarship is Georgia Tech's premier merit-based scholarship. Recipients are selected from the top applicants for admission to Georgia Tech, based on demonstrated excellence in academic and leadership performance. From the applicant pool, students selected as semifinalists will submit teacher recommendations and be interviewed. The top semifinalists will be named finalists and invited with their parents to campus for an interview and information weekend in March. Current Georgia Tech students, transfer students, and international students are not eligible.

Each year, approximately sixty incoming freshmen receive President's Scholarships, which are renewable for up to four academic years, contingent upon honors-level performance and continued leadership development as evidenced by involvement in campus or community activities. Awards for students who entered in fall 2005 were worth up to a full ride, including tuition, room and board, books, fees, and personal expenses. See the Web page below for more information on stipends. Amounts for future years may change.

To be considered, a student must be a U.S. citizen or permanent resident, apply as an incoming freshman, and submit the Georgia Tech Application for Freshman Admission, along with the application fee, with a postmark no later than October 31 of the senior year.

For more information, contact the President's Scholarship Program at 404.894.1615, via e-mail below, or via the Web at **www.psp.gatech.edu**.

Medals and Prizes

Fraternities, academic schools and departments, professional groups, and community organizations award medals and prizes, such as the Phi Kappa Phi Award, and present them at the annual Student Honors Day exercises.

Veterans Services

Because the Department of Veterans Affairs (VA) must receive certification of enrollment before issuing benefit payments, any student planning to enroll under any of the VA programs should initiate the certification procedure through the Georgia Tech Registrar's Office as early as possible. For further information about the certification procedure, contact the Office of the Registrar, or the Department of Veterans Affairs Atlanta Regional Office, 1700 Clairmont Road, Decatur, Georgia 30033-4032. Veterans information is also available at www.registrar.gatech.edu.

Veterans must apply to Georgia Tech through the usual admissions procedure. Eligibility for VA benefits does not guarantee acceptance to the Institute, nor does acceptance to Tech signify eligibility. The Institute serves only as a source of certification and information to the VA; the student must carry out all financial transactions with the Veterans Administration directly.

Graduate Financial Assistance

The Institute offers financial aid from a variety of sources to assist students with the pursuit and completion of their degrees as rapidly as circumstances permit.

Students should address inquiries for financial assistance to the graduate coordinator of the school in which they plan to study. Graduate school applicants should also investigate national fellowships offered by various foundations, professional organizations, and government agencies. Educational loans are available for qualified applicants through the Office of Student Financial Planning and Services. More information about Federal Loan programs and various alternative loan programs may be found at **www.finaid.gatech.edu/graduate**.

Graduate Research Assistantships

Students receiving these assistantships must be registered for at least 12 total graduate credits with at least 9 hours attempted for a letter grade or pass/fail, and employed at least 1/3 time by the Institute. These students also will be eligible for a tuition waiver. For more information, refer to New Graduate Tuition Waiver Policy at **www.bursar.gatech.edu**.

Graduate Teaching Assistantships

Students receiving these assistantships must be registered for at least 12 total graduate credits with at least 9 hours attempted for a letter grade or pass/fail, and employed at least 1/3 time by the Institute. These students also will be eligible for a tuition waiver. For more information, refer to New Graduate Tuition Waiver Policy at **www.bursar.gatech.edu**.

President's Fellowships

Each year, the Institute awards fellowships to supplement other awards to full-time doctoral matriculants with outstanding academic records and high research potential. The fellowship supplement consists of an annual $5,500 stipend (three semesters). These fellowships are renewable for up to a maximum of twelve semesters, based on the major school's evaluation and recommendation.

Federal Fellowships and Traineeships

The Institute participates in a number of fellowship and traineeship programs sponsored by agencies of the federal government. In addition, the following traineeships associated with specific training programs are available: water resources planning and management through the Environmental Resources Center, radiation health specialist training program through the School of Mechanical Engineering's Nuclear and Radiological Engineering Program, air quality control through the School of Chemical and Biomolecular Engineering, and minerals and mining through the School of Materials Science and Engineering.

Sponsored Fellowships

The Institute awards a number of fellowships sponsored by various industrial organizations, foundations, and trust funds for the support of outstanding graduate students. These fellowships assist students in pursuing their studies and research full time. Most of these fellowships are restricted to specific areas of study, and interested students should contact the department in which they plan to study.

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Outside Sponsorships

A student whose tuition and fees are to be paid by a corporation or government sponsor must notify the Bursar's Office of the entity's billing address and the amount to be billed at least sixty days prior to the first fee payment deadline (Phase 1) of each semester. As a courtesy to students, the Bursar's Office will send a billing statement

XX. Student Academic Grievance Procedures

The procedures set forth here are intended to provide students at the Georgia Institute of Technology a means for setting forth grievances relating to academic matters and grade disputes when the student believes that an instructor has acted unfairly or improperly in assignment of grades. It is not the intention of these procedures to provide a forum for questioning the judgment or grading policies of faculty.

A. Applicability of the Grievance Procedures

1. Subject Matter:
   These procedures apply to the review of grievances concerning academic matters and grade disputes. Grade appeals must be initiated by the grievant within their next enrolled term following the term of the course in question, and best efforts should be applied to resolve the appeal within that term.
2. Grievant:
   These procedures shall be the appellate procedures for students at the Georgia Institute of Technology. Students who have pursued a formal grievance procedure or who have pursued informally the resolution of a grievance in their own school, college, or unit and have had that appeal dismissed, may submit the grievance for review under these procedures.

B. Overview of Grievance Process

1. Informal resolution attempted at the school, department or unit level.
2. Formal resolution sought at the school, department, or unit level.
3. Formal resolution sought at the Institute level: appeal reviewed and, if so determined, heard by the Student Grievance and Appeal Committee.

C. Steps in the Grievance Process (to be followed in the order presented)

1. The student shall attempt to resolve the grievance with the individual faculty member, the department, or the unit involved.
2. If the grievance is not resolved in step C.1., and the student elects to continue the grievance process, the student may request a formal hearing setting forth in writing the complaint and the remedy sought at the school, college, or unit level. Upon receipt of such appeal, the unit director will acknowledge the appeal in writing within seven calendar days, and will expeditiously proceed to constitute an ad hoc appeal committee. The unit director will serve as a nonvoting member of the committee. In addition, the following four committee members will be selected:
   1. One tenured faculty member from within the unit, selected by the unit director.
   2. One member of the academic faculty, selected by the student. The student may elect not to select a faculty member; in that case, the committee will consist of three members.

    3. One member from outside the unit, selected by the Student Grievance and Appeal Committee in consultation with the unit director.
    4. One member of the academic faculty selected by the faculty member whose action is in question.

   The committee will proceed with due haste to examine the merits of the complaint and to render a decision within 30 days. During the proceedings, the student may present any and all evidence that the student deems necessary to support the complaint, except that the committee must agree that the evidence is in some way relevant. Such evidence may consist of documentation and/or testimony, within reason. Both complainant and respondent may be accompanied by advisors; the role of advisor must, however, be restricted to advice. Complainant and respondent must make their own cases before the committee.

   Following a hearing and a written decision at the school, college, or unit level, the grievance is presumed to be resolved unless the grievant appeals.

3. The grievant may appeal the decision that has been rendered by the school, college, or unit to the Student Grievance and Appeal Committee.
    1. If the Committee, or subset thereof appointed by the chairperson, rules that the procedures are not applicable or that based on the facts stated by the grievant viewed in the light most favorable to the grievant, there is no basis for relief, then the appeal is denied.
    2. If the Committee rules that the Institute procedural rules are applicable and that a hearing of the appeal is warranted, the Committee shall initiate a hearing process.
    3. If a student wishes to have a grievance outcome reviewed by the Student Grievance and Appeal Committee with a view to a formal hearing, the student shall observe the following requirements:
        1. The appeal must be in writing. It must state the basis for the grievance and the facts that support it, including a summary of the steps that have already been taken to resolve the grievance, reasons why the student finds the resolutions unfair or unsatisfactory, and a statement of the desired remedy.
        2. The written appeal must be presented to the chairperson of the Student Grievance and Appeal Committee within 30 days after the student has received notice of a decision from a school, college, or unit.
        3. The decision as to whether a formal hearing is warranted shall be made available, in writing, to the parties concerned within 30 days after the Committee has received notice of the appeal.
        4. The Committee may alter a deadline specified in these procedures on written petition of either party showing a meritorious reason for delay; if the Committee itself needs to extend a deadline, it may do so on its own authority for periods up to 14 calendar days; for longer delays, the Committee must request an extension from the Executive Board of the Institute.
        5. The determination of the Committee as to whether a hearing is warranted is final.
        6. The Committee shall develop and, with the approval of the Academic Senate, establish and publish its own rules of procedures for the conduct of formal hearings.
        7. After receiving testimony and the relevant documents, the Committee shall make a decision within 30 days on the basis of the received material.

8. The Committee's decision shall contain finding of fact, the decision arrived at, reasons for the decision, and the criterial or policy applied in reaching the decision.

D. Remedies

1. **General**
   If the Committee finds, after a formal hearing, that a faculty member, a departmental committee, or an administrator of a unit has not acted fairly or properly, it will recommend a remedy. It will seek to find a remedy that can be implemented by those whose cooperation is needed. In the matter of a grade dispute, this must include the faculty member involved in the dispute.
2. **Enforcement**
   1. If any party does not comply with the decision of the Committee, the Committee shall, upon request of any party, seek full compliance through the administrative offfices of the Institute through the chief academic officer (CAO).
   2. The merits of the dispute shall not be subject to review in the process of enforcement. There shall be strong presumption in favor of the remedy selected by the Committee.
3. **Report of a Final Decision**
   After a final decision has been made in a case, the Committee shall prepare a report setting forth its findings and recommendations for action and present the report to the CAO. A copy of the report shall be presented to the parties concerned and to those persons involved in implementing the Committee's recommendations. All such communications shall be effected in person or by certified mail with a return receipt requested; such receipt will become part of the Institute records of the case.

   Grade Changes: In decisions that would result in the changing of a posted grade, the CAO will instruct the unit director to ask the involved faculty member to effect the prescribed grade change, or, if cooperation is not forthcoming, to effect the grade change directly by action of the unit director. Such action shall be construed as restrictive of the recourses of the faculty member through the usual appeal procedure of the Institute.

   Care will be given that no incomplete or inaccurate information pertaining to the grievance is placed in any file; and that all evidence obtained at any stage of the process and all deliberations and proceedings be kept confidential. At the conclusion of each case, the Student Grievance and Appeal Committee shall transmit original or true copies of the documents related to the case to the appropriate Office of the Vice President of Student Affairs, who shall keep such records securely as Institute records for a period of time specified by Institute statutes.
4. **Final Appeal**
   Appeal of the decision of the Committee to the CAO shall be permitted only for the purposes of procedural review. Such appeals shall be submitted in writing, with copies to the Committee. The CAO will review the findings of the Committee, and, upon judgment that the Committee has failed to follow these procedures or has failed to follow the procedures approved by the Academic Senate for the operation of the Student Grievance and Appeal Committee (XX1.C.3.c.c6), return the case to the Committee for reconsideration, along with description of the preceived error in procedure and a recommendation for its correction.

Academic Honor Code

A student initiative, the Academic Honor Code became official Institute policy in 1996. Students are required to sign an honor agreement acknowledging their awareness of the Code. All students are strongly encouraged to understand each instructor's Academic Honor expectations. The objective of the Honor Code is to level the academic playing field for all students while strengthening the level of academic integrity and trust within the Georgia Tech community.

Student Alcohol Policy

Georgia Tech complies with all federal, state, and local laws and policies, including the policies of the Board of Regents of the University System of Georgia, on the abuse of alcohol and other drugs by its students. The legal drinking age in Georgia is twenty-one. Each member of the Tech community should be involved in the implementation of the Student Alcohol Policy. This policy is distributed via e-mail annually.

In accordance with federal and state laws and because of the potential detriment to the health, well-being, and success of students, all students are prohibited from engaging in the unlawful use or abuse, possession, manufacture, distribution, dispensation, and sale of alcoholic beverages, controlled substances (including marijuana), and other drugs.

Parental Notification Policy

Parents of students under the age of twenty-one will be notified when a student is found responsible for violating the "Georgia Tech Student Policy on Alcohol and Other Drugs" when the following occurs:

1. When the student endangers himself or herself or others while under the influence of alcohol or other substances. Specific instances include DUI, fighting, alcohol poisoning, and hospitalization.
2. When a hearing officer determines that any future violation of the Institute's policy will most likely result in suspension from Georgia Tech.
3. When a hearing officer determines that any future violation of the Institute's policy will most likely result in removal from housing.

Required Student Computer Ownership

In an effort to foster equal access to computers and to make the most of the teaching and learning technology available at Georgia Tech, all undergraduate students entering Georgia Tech under this or subsequent catalogs are required to own or lease a computer. The minimum hardware and software requirements (as well as purchasing and financing options) are sent each spring to students accepted for the summer and fall semesters, and in the fall to students accepted for spring semester.

Because computer ownership is mandatory, an average cost for the minimum hardware and software required can be included in computing a new student's cost of education for the purpose of determining their eligibility for all forms of student financial aid. Students should contact the Office of Student Financial Planning and Services for more information.

Family Educational Rights and Privacy Act (FERPA)

Notification of Student Rights Under FERPA and Directory Information

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

1. The right to inspect and review the student’s education records within forty-five days of the day that the Institute receives the request for access.

   Students should submit to the registrar written requests that identify the record(s) they wish to inspect. The registrar will make arrangements for access and notify the student of the time and place where the records may be inspected.

2. The right to request the amendment of the student’s education records that the student believes are inaccurate or misleading.

   Students may ask the Institute to amend a record that they believe is inaccurate or misleading. They should write the registrar, clearly identifying the part of the record they want changed, and specify why it is inaccurate or misleading.

   If the Institute decides not to amend the record as requested by the student, the Institute will notify the student of the decision and advise the student of his or her 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.

3. The right to consent to disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA authorizes disclosure without consent.

   One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the Institute in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the Institute has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

   A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

4. The right to file a complaint with the Untied States Department of Education concerning alleged failures by the Georgia Institute of Technology to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202-4605

Annual Notice of "Directory Information" Contents

"Directory Information" is information not generally considered harmful or an invasion of privacy if disclosed. The Georgia Institute of Technology considers the following information to be "Directory Information":

Name, address, and telephone listing
Level (graduate or undergraduate)
Field of study
Dates of attendance

Degrees with associated honors and designations, and date(s) awarded

"Directory Information" cannot include student identification numbers or social security numbers.

Students who wish to prohibit the release of "Directory Information" can view information on the registrar's **confidentiality webpage**.

Directory Information

"Directory Information" is information not generally considered harmful or an invasion of privacy if disclosed. The Georgia Institute of Technology considers the following information to be Directory Information:

1. Name, address, and telephone listing
2. Level (graduate or undergraduate)
3. Field of study
4. Dates of attendance
5. Degrees, including designation and date awarded

Directory Information cannot include student identification numbers or social security numbers. Students who wish to discuss the prohibition of release of Directory Information should contact the Registrar's Office for procedural information.

C. Grade Substitution

1. First-time freshman students who receive a grade of *D* or *F* in a course within their first two terms in residence are eligible to repeat the course and have the original grade excluded from the computation of the academic average. Grade substitution may be used only once per course, with a maximum of two courses total.
2. The course must be repeated at Georgia Tech within the student's first four terms in residence. The application for grade substitution must be filed with the Registrar's Office no later than the deadline for withdrawing from a course during the student's next term in residence after the course is repeated.
3. The original course and grade will continue to appear on the student's transcript, with a notation that the course was repeated and that the original grade is not included in computation of the academic average. Credit for the course will be counted only once.
4. If the revised academic average results in a change in academic standing for any term, then the revised standing will be reflected on the student's transcript. If standing is changed from "Dismissal" to a higher standing, it will be recorded as "standing from Dismissal" and the dismissal will continue to be counted with respect to regulations and policies related to Withdrawal and Readmission.
5. A course is not eligible for grade substitution if the student was found responsible for any academic misconduct in that course.
6. The grade substitution policy (including, but not limited to, course eligibility, number of courses, time limits, and deadlines) is not subject to exceptions and may not be petitioned to the Undergraduate Curriculum Committee.

Grading System - Rules and Regulations Section V

A. Grades

1. The letter grades for completed courses used in the calculation of scholastic average are the following:
    - ***A***-excellent (four quality points)
    - ***B***-good (three quality points)
    - ***C***-satisfactory (two quality points)
    - ***D***-passing (one quality point)
    - ***F***-failure, must be repeated if in a required course (no quality points)
2. The following grades will be used in the cases indicated and will not be included in the calculation of scholastic average:
    - ***S***-passing of a course taken under pass/fail or completion of a course in which no letter grade may be assigned
    - ***U***-unsatisfactory in a course taken under pass/fail or unsatisfactory performance in a course for which no letter grade may be assigned
    - ***V***-assigned when the course has been audited; no credit given; and implies no academic achievement on the part of the student
3. The following grades will be used in the cases indicated and will not be included in the calculation of scholastic average:
    - ***I***-incomplete. Assigned when a student was doing satisfactory work, but for nonacademic reasons beyond his/her control and deemed acceptable by the instructor, was unable to meet the full requirements of the course. If the student's performance was so poor as to preclude his/her passing, the instructor shall assign the grade of ***F*** . Refer to section **VII.B** for regulations regarding removal of the *I* grade.
    - ***W***- withdrawal without penalty. Withdrawals from individual courses without penalty will not be permitted after the end of the sixth week of the spring and fall semesters, and at the end of the fifth week during the accelerated summer semester, except in cases of hardship as determined by the Institute Undergraduate Curriculum Committee or Graduate Committee, as appropriate. Withdrawal from school will not be permitted after 60 percent of the term except in cases of hardship as determined by the Institute Undergraduate Curriculum Committee or Graduate Committee, as appropriate. With the exception of part-time graduate students, students who withdraw from school and receive all grades of *W* will not ordinarily be permitted to re-enroll the next succeeding term. Refer to section **VIII.B** for regulations regarding readmission.

- ***NR***- not reported. Assigned when an instructor fails to submit grades by the published deadline, through no fault of the student.

4. Final grades are reported to the registrar at the end of each term.
5. Progress report grades will be submitted to the Registrar on all classes numbered 1000 and 2000 each term. These grades will be used for the advisement of students, not for the calculation of any GPA at Georgia Tech. Progress report grades will be *S* or *U* (a grade of *U* indicates that based on work completed to that point the student's standing is in the D or lower range). They will be submitted by midterm, as specified by the official calendar, and be available to students no later than the following Monday.
6. If a final course grade is believed to be in error, the student should contact the professor as soon as possible. In general, no change of grade will be made after the end of the student's next term in residence.

B. Academic Average

The academic average is calculated as the ratio of the total number of quality points earned to the total number of credit hours in which a final letter grade has been assigned.

Auditing

Officially enrolled students who have obtained approval of their advisors and the department of instruction concerned may audit courses at Tech; however, the student will not receive credit for courses scheduled on an auditing basis. If the student wishes to change to or from auditing status, he or she must follow the procedure for schedule changes during the time allotted for schedule modification in the official calendar. In order for a successful audit to show on the student's permanent record, the student must comply with all requirements listed by the instructor. If the instructor deems that the student did not successfully audit the course, the grade of *W* will be assigned. All students registered as auditors must pay tuition at the regular rate. Members of the faculty or staff of the Georgia Institute of Technology may sit in on a course with the permission of the school/college concerned.

Examination and Term Grades

The Institute schedules final examinations during the last week of each term, and term grades are posted on the Student Access System.

Institute Rules for the Pass/Fail System

At the discretion of the major school, a student may receive up to a maximum of nine hours credit toward a bachelor's degree or three hours credit toward a graduate degree for courses taken under the pass/fail system with a grade of satisfactory. Such courses apply toward the degree requirements only if the major school has approved the course, either for all majors or for the individual student. The department or school offering a course determines the criteria for a passing grade and may restrict the pass/fail enrollment in any course it offers. The rules for withdrawal from graded courses apply to pass/fail courses as well.

Faculty will record only a grade of satisfactory or unsatisfactory for any student so designated on the official class roll; students may not change their designation from credit to pass/fail or from pass/fail to credit after the last day to make schedule changes. Neither the professor nor the registrar may change a pass/fail grade to a letter grade, nor may the registrar include courses taken pass/ fail in the calculation of grade point averages.

Under certain circumstances, a change in degree requirements may affect a department's position on a course previously approved for degree credit under the pass/fail system. In such cases, the student's major school will decide if a course completed with a grade of pass before the change will fulfill the amended requirements.

Only students who complete ninety-one or more hours toward a degree at Georgia Tech may use the entire maximum of nine hours credit taken on pass/fail toward a bachelor's degree. For transfer students, second undergraduate degree students, and dual degree students, the number of hours completed at Georgia Tech determines the maximum number of pass/fail hours allowed, according to the following schedule:

Hours included in program of study	Hours allowed on pass/fail basis
45 to 70 credit hours	3 credit hours
71 to 90 credit hours	6 credit hours
91 or more credit hours	9 credit hours

Scholastic Average

A student who passes a course receives both the designated number of credit hours and a number of quality points, calculated by multiplying the course credit hours and the numerical equivalent of the letter grade received (*A* = 4, *B* = 3, *C* = 2, *D* = 1). Thus, a student taking a three-hour credit course and earning a *C* receives six quality points. To determine the undergraduate scholastic average, the total number of quality points earned by the student for all courses scheduled as an undergraduate is divided by the total number of credit hours scheduled; for the graduate scholastic average, only those courses scheduled by the student while enrolled in the graduate division are considered. If a student takes the same course more than once, the later grade does not replace the earlier one; rather, the scholastic average includes both grades unless grade substitution has been approved. Courses taken pass/fail are not included in the calculation of the student's grade point average.

I. Purpose

These regulations are intended to set forth the requirements of the faculty to the end that a large student body may live and work together harmoniously with a minimum of friction and misunderstanding. Each student is expected to be a law-abiding citizen and to obey the laws of the city of Atlanta, Fulton County, the state of Georgia, and the United States.

II. Academic Calendar

A. Standard Calendar

The standard academic calendar of the Georgia Institute of Technology consists of fall and spring semesters and an accelerated summer session. Each semester normally includes approximately fifteen weeks of instruction plus one week of final examinations; the normal summer session includes approximately eleven weeks of instruction plus one week of final examinations. An "academic year" consists of the fall and spring semesters. "Term" may refer to either a semester or a summer session. The Office of the Registrar publishes the official calendar for each academic term.

II. Academic Calendar

B. Other Academic Terms

In addition to the standard academic calendar, certain programs may be offered on other schedules. All such offerings are subject to the approval of the Institute Undergraduate Curriculum Committee, Institute Graduate Committee, and/or the registrar, as appropriate. With approval, such programs may operate under different academic rules, such as credit-hour limits or withdrawal dates, than those specified for standard academic terms.

II. Academic Calendar

C. Curriculum Year

1. Requirements for degrees and minors shall be specified for each curriculum year, which is comprised of a summer term plus the immediately following fall and spring semesters. This designation shall be independent of any schedule for publication of such requirements in printed or electronic form.
2. All changes in degree and minor requirements shall become effective at the beginning of the next curriculum year following final approval by the Institute Undergraduate Curriculum Committee, Institute Graduate Committee, Academic Senate, and/or University System, as appropriate.
3. The Registrar's Office shall maintain an archival record of all degree and minor requirements associated with each curriculum year.

III. Responsibility for Notices and Change of Address

A. Notices

All students will have an e-mail account through the Georgia Institute of Technology that will be their official point of contact, and they are expected to check this account each school day. Students are also expected to be aware of notices that appear on the Student Access System as well as general notices that appear in the Technique. It is the student's responsibility to check the Student Access System during the drop/add period of registration and during the term to verify the accuracy of his/her schedule and for notices. Schedules should be verified at least once during the first five weeks of the term and once after mid-term.

III. Responsibility for Notices and Change of Address

B. Change of Address

Students are responsible for reporting all changes within one week on the Student Access System.

III. Responsibility for Notices and Change of Address

C. Unclaimed Mail

Students are responsible for returning to the front window of the Post Office all mail in their Post Office boxes that is unclaimed after three days.

IV. Attendance

A. General

1. Each term, a course listing is published showing the time period for each class.
2. If an instructor should be late in meeting the class, the students shall wait twenty minutes after the published starting time. If the instructor has not arrived by that time, the students may leave unless specifically notified to await the instructor's arrival.

IV. Attendance

B. Class Attendance

1. There are no formal institutional regulations regarding class attendance at the Georgia Institute of Technology. The resources of the Institute are provided for the intellectual growth and development of the students who attend. A schedule of courses is provided for the students and faculty to facilitate an orderly arrangement of the program of instruction. The fact that classes are scheduled is evidence that attendance is important; students should, therefore, maintain regular attendance if they are to attain maximum success in the pursuit of their studies.
2. All students are responsible for obtaining an understanding of each instructor's policy regarding absences; all students are expected to attend announced quizzes, laboratory periods, and final examinations. Although it is recognized that occasionally it may be necessary for students to be absent from scheduled classes or laboratories for personal reasons, including major religious observances, students are responsible for all material covered in their absences, and they are responsible for the academic consequences of their absences. Students should discuss planned absences with their instructors as soon as possible after the beginning of an academic term. Work missed may be made up at the discretion of the instructors.
3. Students who are absent because of participation in approved Institute activities (such as field trips and athletic events) will be permitted to make up the work missed during their absences. Approval of such activities will be granted by the Student Academic and Financial Affairs Committee of the Academic Senate, and statements of the approved absence may be obtained from the Office of the Registrar.

V. Grades and Scholastic Average

A. Grades

1. The letter grades for completed courses used in the calculation of scholastic average are the following:
    - ***A***-excellent (four quality points)
    - ***B***-good (three quality points)
    - ***C***-satisfactory (two quality points)
    - ***D***-passing (one quality point)
    - ***F***-failure, must be repeated if in a required course (no quality points)
2. The following grades will be used in the cases indicated and will not be included in the calculation of scholastic average:
    - ***S***-passing of a course taken under pass/fail or completion of a course in which no letter grade may be assigned
    - ***U***-unsatisfactory in a course taken under pass/fail or unsatisfactory performance in a course for which no letter grade may be assigned
    - ***V***-assigned when the course has been audited; no credit given; and implies no academic achievement on the part of the student
3. The following grades will be used in the cases indicated and will not be included in the calculation of scholastic average:
    - ***I***-incomplete. Assigned when a student was doing satisfactory work, but for nonacademic reasons beyond his/her control and deemed acceptable by the instructor, was unable to meet the full requirements of the course. If the student's performance was so poor as to preclude his/her passing, the instructor shall assign the grade of *F* . Refer to section VII.B for regulations regarding removal of the *I* grade.
    - ***W***- withdrawal without penalty. Withdrawals from individual courses without penalty will not be permitted after 50 percent of the term has been completed, as specified by the official calendar, except in cases of hardship as determined by the Institute Undergraduate Curriculum Committee or Graduate Committee, as appropriate. Withdrawal from school will not be permitted after 60 percent of the term except in cases of hardship as determined by the Institute Undergraduate Curriculum Committee or Graduate Committee, as appropriate. With the exception of part-time graduate students, students who withdraw from school and receive all grades of *W* will not ordinarily be permitted to re-enroll the next succeeding term. Refer to section VIII.B for regulations regarding readmission.
    - ***NR***- not reported. Assigned when an instructor fails to submit grades by the published deadline, through no fault of the student.

4. Final grades are reported to the registrar at the end of each term.
5. Progress report grades will be submitted to the Registrar on all classes numbered 1000 and 2000 each term. These grades will be used for the advisement of students, not for the calculation of any GPA at Georgia Tech. Progress report grades will be *S* or *U* (a grade of *U* indicates that based on work completed to that point the student's standing is in the D or lower range). They will be submitted after 40 percent of the term has been completed, as specified by the official calendar, and be available to students no later than the following Monday.
6. If a final course grade is believed to be in error, the student should contact the professor as soon as possible. In general, no change of grade will be made after the end of the student's next term in residence.

V. Grades and Scholastic Average

B. Academic Average

The academic average (or grade point average) is calculated as the ratio of the total number of quality points earned to the total number of credit hours in which a final letter grade has been assigned.

V. Grades and Scholastic Average

C. Grade Substitution

1. First-time freshman students who receive a grade of *D* or *F* in a course within their first two terms in residence are eligible to repeat the course and have the original grade excluded from the computation of the academic average. Grade substitution may be used only once per course, with a maximum of two courses total.
2. The course must be repeated at Georgia Tech within the student's first four terms in residence. The application for grade substitution must be filed with the Registrar's Office no later than the deadline for withdrawing from a course during the student's next term in residence after the course is repeated.
3. The original course and grade will continue to appear on the student's transcript, with a notation that the course was repeated and that the original grade is not included in computation of the academic average. Credit for the course will be counted only once.
4. If the revised academic average results in a change in academic standing for any term, then the revised standing will be reflected on the student's transcript. If standing is changed from "Dismissal" to a higher standing, it will be recorded as "standing from Dismissal" and the dismissal will continue to be counted with respect to regulations and policies related to Withdrawal and Readmission.
5. A course is not eligible for grade substitution if the student was found responsible for any academic misconduct in that course.
6. The grade substitution policy (including, but not limited to, course eligibility, number of courses, time limits, and deadlines) is not subject to exceptions and may not be petitioned to the Undergraduate Curriculum Committee.

VI. Scholastic Regulations

A. Classification of Students

1. Undergraduate students, with the exception of non-degree-seeking students, shall be classified at the end of each term by the Office of the Registrar on the basis of the total number of semester credit hours for which they have credit in accordance with the following schedule:

   Freshman 0-29 credit hours
   Sophomore 30-59 credit hours
   Junior 60-89 credit hours
   Senior 90 + credit hours
2. Graduate and special students who have completed all requirements for a particular classification as defined by their major department may request reclassification through their major department.
3. Students scheduled for at least twelve credit hours in a semester are classified as full-time students; those scheduled for six-eleven hours are classified as part-time students; and those scheduled for one-five hours are classified as less-than-part-time students.

VI. Scholastic Regulations

B. Eligibility for Class Rings

A student may purchase a class ring any time after receiving credit for seventy semester credit hours.

VI. Scholastic Regulations

C. Academic Standing

1. The assignment of academic standing is based on both the student's most recent term and overall grade point average.
2. The minimum satisfactory academic average is 1.70 for freshmen and joint-enrolled high school students; 1.80 for sophomores; 1.95 for juniors; 2.00 for seniors and special undergraduates; 2.70 for master's and special graduate students; and 3.00 for doctoral students.
3. Good academic standing students not on academic probation are in good academic standing.
4. Academic warning
    1. Academic warning is a subcategory of good academic standing, differing only in the maximum allowable schedule load.
    2. A student who has an overall academic average below the minimum satisfactory scholarship requirement, or whose academic average for work taken during any term is below this requirement, shall be placed on academic warning.
5. Academic probation
    1. A student on academic warning whose academic average is below the minimum satisfactory scholarship requirement for any term shall be placed on academic probation.
    2. An undergraduate student in good academic standing whose academic average for any term is 1.00 or below, based on at least six credit hours, shall be placed on academic probation.
    3. A student also may be placed on academic probation through other actions, as described in the following section.
6. Dismissal for unsatisfactory scholarship
    1. The Institute may drop from the rolls at any time a student whose record in scholarship is unsatisfactory.
    2. A graduate student whose academic average for any term is 2.00 or below may be placed on academic probation or dropped, regardless of the student's previous record.
    3. A student on academic probation whose scholastic average for the term of probation is below the minimum satisfactory scholarship requirement and whose overall academic average is below the minimum satisfactory scholarship requirement shall be dropped from the rolls for unsatisfactory scholarship.
    4. An undergraduate student on academic warning whose academic average for any term is 1.00 or below, based on at least six credit hours, shall be dropped from the rolls for unsatisfactory scholarship.
    5. The record of a student on academic probation whose term average is unsatisfactory, but whose overall academic record is satisfactory, may be reviewed by the Undergraduate Curriculum Committee or the Graduate Committee, as appropriate. The student may be dropped or may be continued on academic probation.
7. Academic review

A student who normally would be dropped from the rolls for academic deficiencies, but appears from the record not to have completed the term, may be placed on academic review. This is a temporary standing that makes the student ineligible for registration. If no acceptable explanation is given within a reasonable time, the standing is changed to drop.

8. The academic standing regulations given previously for graduate students do not preclude a school from having more rigorous requirements.

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VI. Scholastic Regulations

D. Maximum Schedule Load

1. The maximum number of credit hours for which an undergraduate student may register in fall or spring semester, based on his or her academic standing, is as follows:

   Good 21 semester hours
   Warning 16 semester hours
   Probation 14 semester hours

2. The maximum number of credit hours for which an undergraduate student may register in a normal summer term, based on his or her academic standing, is as follows:

   Good 16 semester hours
   Warning 14 semester hours
   Probation 12 semester hours

3. A graduate student may register for a maximum of twenty-one semester hours in fall or spring semester and a maximum of sixteen semester hours during the normal summer term.
4. Requests for schedule overloads must be recommended by the student's major school and approved by the Institute Undergraduate Curriculum Committee or Graduate Committee, as appropriate.

VI. Scholastic Regulations

E. Academic Honors

The Institute encourages excellence in scholarship and gives official recognition to undergraduate students whose work is superior in any given term.

1. Dean's List-includes all degree-seeking undergraduates who, during the preceding term, made an academic average of 3.00 or higher, completed a schedule of at least twelve hours of coursework on a letter-grade basis, and are not on academic warning or probation or subject to any disciplinary action. (All grades must be reported.)
2. Faculty honors-includes all degree-seeking undergraduates who during the preceding term made an academic average of 4.00, completed a schedule of at least twelve hours of coursework on a letter-grade basis with no *W* grades, and are not on academic warning or probation or subject to any disciplinary action. (All grades must be reported.)

VI. Scholastic Regulations

F. Change of Major

1. Undergraduate students, by filing the required form, will be permitted one unrestricted transfer between majors (including undecided) until they have accumulated credit for sixty hours. After sixty hours or upon subsequent request for transfer, the transfer will be permitted at the discretion of the school that the student is seeking to enter. Students who transfer from another institution to pursue a degree at Georgia Tech will be permitted to change their major only at the discretion of the school that the student is seeking to enter. Transfer students are not eligible for the one unrestricted change of major. (Note: Certain majors, because of high enrollment, have been granted a waiver of the one unrestricted transfer regulation. Students should consult with the individual school concerning its current transfer policy.)
2. Graduate students, by filing the required form, may transfer with the concurrence of the schools involved and the graduate dean.

VI. Scholastic Regulations

G. Exceptions

Exceptions to these scholastic regulations may be made by the Undergraduate Curriculum Committee or the Graduate Committee, as appropriate, whenever a consideration of the student's complete record indicates that the application of a specific regulation will result in injustice.

VII. Deficiencies

A. General

1. A student who has received a grade of *I* , *F*, or *U* in a course has a deficiency in the course.
2. A student whose final grade is *F* or *U* has a failure in that course. The student must repeat and pass the course in class before credit will be allowed. (See section B.4 below.)

VII. Deficiencies

B. Removal of Deficiencies

1. If a grade of *I* (incomplete) is assigned in a course, the incomplete must be removed and the grade change reported by the end of the student's next term in residence or, if the student has not been enrolled, by the end of the term one calendar year from the date the incomplete was assigned. Failing to remove the I in the allotted time will result in the I being changed to the grade of *F* . To remove the incomplete, the student should consult with the instructor as soon as possible after the term is over and complete whatever remaining work is outlined by the instructor. Repeating the course for credit does not remove the grade of *I* .
2. A student who has a failure in a required course must schedule that course the next time it is offered while the student is in residence.
3. A degree candidate who has a single course deficiency from the final term of enrollment will be permitted a re-examination, except in laboratory or studio courses, courses in which a significant portion of the grade is based upon projects, or when the deficiency is in any way a result of academic dishonesty. The re-examination will be given after commencement, and thereafter once per annum after commencement, upon receipt of the reactivated degree petition for the next term, and authorization of the exam, by the Registrar. A student should schedule the re-examination prior to the last day of Phase II registration to allow time to register for the course during the next semester if the student does not pass the re-examination and chooses to retake the course. The examination will be graded *S* or *U* and the grade so recorded. The previously assigned grade will remain a part of the record and a notation will be made on the student's transcript that the course requirement was satisfied by a re-examination. The student who successfully completes the re-examination will then be eligible to graduate the following term and may obtain a letter of completion from the registrar.
4. A degree candidate who has otherwise completed all requirements for graduation and who has an incomplete in laboratory work taken during his or her final term in residence may remove the incomplete at the convenience of the department of instruction concerned.

VIII. Withdrawal from School and Readmission

A. Withdrawal

1. Withdrawal from school will not be permitted after 60 percent of the term except in cases of hardship as determined by the Institute Undergraduate Curriculum Committee or Graduate Committee, as appropriate. With the exception of part-time graduate students, students who withdraw from school and receive all grades of *W* will not ordinarily be permitted to re-enroll the next succeeding term. A student may withdraw from school via the Student Access System by the posted deadline in the Official School Calendar published in the OSCAR. All holds on the student's record must be cleared prior to withdrawal.
2. Students who cease attendance without withdrawing via the Student Access System will receive grades of F, U, or I for the courses in which they were registered that term.
3. Permission and/or formal resignation are not required when a student has completed an official school term and does not register for the succeeding term.
4. See section **V.A.3** for further information on withdrawal.

VIII. Withdrawal from School and Readmission

B. Readmission

1. Any student who is not enrolled for two or more consecutive terms must apply for readmission. This application, with all the pertinent supporting information (except possibly another college transcript: see 2 below), must be submitted to the registrar before the deadline for the term for which readmission is requested, as listed below:

   Fall-July 1
   Spring-December 1
   Summer-April 1
   Applications received after these deadlines will not be accepted.
2. Students who have attended other colleges should plan their readmission so as to allow ample time for official transcripts from those colleges to be sent to Georgia Tech. If official transcripts have not been received prior to the last day of registration, the student seeking readmission will not be allowed to complete registration.
3. Any student in good standing who is not enrolled for a single term will be allowed to re-enroll without applying for readmission to the Institute. There will be no distinction between the terms of the regular academic year and the summer term.
4. A student who is on academic warning or academic probation who is not enrolled for a single term will have an automatic hold placed on registration that must be cleared by the student's major school. For example, a student is placed on academic probation at the close of fall term and fails to enroll by the close of registration for the spring term. An automatic registration hold will be set, which must be cleared by the major school before the student can register for any future term.
5. A student who has been dropped once for unsatisfactory scholarship will ordinarily not be readmitted. A student who seeks an exception to this rule must have been out of the Institute for at least one term and have had a conference with the major school concerning the readmission. The readmission application deadline for a student who has been dropped is two months prior to the published readmission deadline for the term.
6. A student who is dropped a second time for unsatisfactory scholarship will not be readmitted to the Institute.
7. Any student, except a part-time graduate student, who withdraws during a term and wishes to return the following term must complete a Petition to the Faculty for consideration. This petition must be submitted to the registrar before the deadline for the term for which readmission is requested.

VIII. Withdrawal from School and Readmission

C. Transfer Credit

1. Coursework pursued at another institution after dismissal from Georgia Tech for unsatisfactory scholarship may be considered as evidence for readmission.
2. If readmitted, a student will not necessarily be given transfer credit for work taken at another institution after dismissal from Georgia Tech.
3. With the exception of courses from which a student withdrew and received a grade of *W* or *V*, in no case will transfer credit be allowed for courses completed at another institution that have previously been taken at Georgia Tech.

VIII. Withdrawal from School and Readmission

D. Study Abroad

Any student in good standing choosing to participate in an approved study abroad program for two or more terms must complete a student Information Update form with the study abroad coordinator prior to departure. This form will enable the student to re-enroll for the term of "planned re-entry" without submitting a formal readmission application. It will be the student's responsibility to inform the study abroad coordinator of any change in the planned re-entry date.

IX. Scheduling

A. General

1. All previously scheduled coursework takes precedence over newly scheduled material. Therefore, all work that is incomplete from a previous term should be completed, or arrangements to complete it should be made prior to placing emphasis on new coursework.
2. Students must follow the approved curriculum of the academic school in which they are registered. Students who do not follow the approved curriculum may be denied registration privileges.
3. Each student is strongly advised each term to schedule all prerequisite courses. Students who do not have the stated prerequisites for a course but believe they have the required knowledge to fulfill prerequisite requirements should contact the department of instruction.
4. The completion of incomplete work from a previous term and the scheduling of out-of-sequence courses are the responsibility of the student, and they will be consequently held accountable. The number of scheduled hours allowed for a term may be adjusted to take into consideration the amount of incomplete work remaining regardless of the student's academic standing.
5. Students may not repeat courses on a letter-grade basis in which the grade of *B* or higher has been earned previously.
6. Subject to approval by a faculty advisor, a course may be taken more than once for academic credit. All grades will count in determining the scholastic average, but the course will be counted only once for credit toward a degree.
7. See **section X** for Institute rules for courses taken on a pass/fail basis.

IX. Scheduling

B. Academic Load

1. Maximum credit hour loads are given in section VI.D. Any hours above these limits must have prior approval of the Undergraduate Curriculum Committee or the Graduate Committee, as appropriate.
2. Graduate students must maintain a minimum of three credit hours each term of enrollment. Exceptions to this regulation may be made during the student's graduation term.

IX. Scheduling

C. Auditing of Courses

1. Auditing of courses will be permitted to regularly enrolled students who have obtained the approval of their advisor and the departments concerned. Such courses count at full value in computing the student's load.
2. The grade for auditing is *V* (visitor), and this grade will have no effect on the student's grade point average.
3. No academic credit is granted for audit participation in a course.
4. Students are not permitted to change to or from an auditing status except through the regular procedures for schedule change or withdrawal. Any student who does not meet the instructor's requirements for a successful audit will be withdrawn with a grade of *W* assigned at the end of the term.

X. Pass/Fail System

A. General

1. At the option of the student's major school, credit toward a bachelor's degree may be allowed for courses taken under the pass/fail system and completed with a grade of pass.
2. The major school must approve all pass/fail courses included in the final program of study, and students should become aware of school requirements.
3. In graduate programs, thesis research hours will be evaluated on a pass/fail basis.
4. Pass/fail enrollment in any course may be restricted by the school or department offering the course.
5. Students who are permitted to register under the pass/fail system will be so designated on the official class rolls; the grades recorded will be S for satisfactory or *U* for unsatisfactory. These grades will not be included in the calculation of the grade point average and cannot be changed to a grade that will count in the average.
6. Withdrawals from courses taken on a pass/fail basis will follow the same rules that govern withdrawals from courses included in the scholastic average.

X. Pass/Fail System

B. Credit Hours Permitted

1. The maximum number of pass/fail hours permitted in an undergraduate program of study depends upon the number of semester credit hours that will be completed at Georgia Tech, as follows:

   Hours included in program of study Hours allowed on pass/fail basis

   45 to 70 credit hours 3 credit hours
   71 to 90 credit hours 6 credit hours
   91 or more credit hours 9 credit hours
2. For a second undergraduate degree, these limitations apply to the credit hours included in the program of study for that second degree.
3. A master's degree program of study may include up to three semester credit hours on a pass/fail basis.

XI. Cross Enrollment and Concurrent Registration

A. General

1. Students who are enrolled at Georgia Tech may not receive credit for courses completed at another institution during the same academic term, unless prior permission has been obtained for cross enrollment or concurrent registration, as described in this section.
2. With the approval of the student's major school, a student may schedule courses at any one of the colleges or universities comprising the Atlanta Regional Consortium for Higher Education (ARCHE), if such courses are not available in a particular term at Georgia Tech. A list of participating institutions is available from the Office of the Registrar.
3. Cross enrollment also is permitted among institutions participating in the Georgia Tech Regional Engineering Program (GTREP) and selected institutions in the Regents' Engineering Transfer Program (RETP).
4. All cross enrollment registration activities are performed at the student's home institution.
5. For institutions not participating in cross enrollment, a student must apply in advance for permission to be concurrently registered at both Georgia Tech and the other institution.

XI. Cross Enrollment and Concurrent Registration

B. Eligibility

1. Cross enrollment and concurrent registration are available only to degree-seeking juniors, seniors, and graduate students. Ordinarily students will not be allowed to participate during their first term at Georgia Tech, nor will students be allowed to cross enroll for more than two courses per term. Special rules apply to students participating in the GTREP and RETP programs. Any student seeking an exception to these eligibility requirements should contact the Office of the Registrar.
2. To participate in cross enrollment or concurrent registration, a student must be in good standing during the term when the application is processed.
3. During the term of cross enrollment or concurrent registration, the student must be carrying three or more credit hours at Georgia Tech and be in good standing. The total academic load carried at all institutions combined may not exceed the number of hours for which the student would be allowed to register at Georgia Tech.
4. Cross enrollment and concurrent registration courses must be completed with a *C* or better in order to receive credit for the course. Credits earned under cross enrollment will be handled as transfer credit, but will count as resident credit toward a degree. Credits earned under concurrent registration will be handled as regular transfer credit. Grades received in cross enrollment or concurrent registration courses will not be included in the calculation of the grade point average. No credit will be awarded until an official transcript from the participating institution is received by the Georgia Tech **Registrar's Office**.

XII. Examinations

A. General

1. All re-examinations, examinations for advanced standing, and special examinations must be authorized by the registrar before being scheduled.
2. If the instructor considers it necessary during an examination, students may be required to present their student identification card to the instructor or an authorized representative.

XII. Examinations

B. Examinations for Advanced Standing

1. Students who offer satisfactory evidence that they are qualified to do so may receive credit for a course by examination. Such an examination is called an examination for advanced standing.
2. Examinations for advanced standing require the recommendation of the department of instruction in which the course is offered, payment of the appropriate fee, and authorization by the registrar.
3. Examinations for advanced standing will ordinarily be offered during the week of final examinations.
4. A student will not be allowed to take an examination for advanced standing in a given course more than twice.
5. An examination for advanced standing will be reported with an S or U grade. Neither grade will be included in the calculation of the scholastic average.

XII. Examinations

C. Regulations Covering Final Examinations

1. The Office of the Registrar will publish the final examination schedule and policies each term.
2. A student reporting to a final examination room more than fifteen minutes after the scheduled starting time shall not be allowed to take the examination unless a satisfactory explanation is presented to the instructor conducting the examination.

XIII. Undergraduate Degrees

A. General

1. To be considered for admission to candidacy for a degree, a student must have passed the Regents' Test and must make a formal petition for the degree during the term preceding the final term in residence. A petition for degree will not be accepted until the Regents' Test has been passed.
2. Students desiring to withdraw their name from the rolls of degree candidates must formally withdraw the petition for degree before the end of the seventh week of the semester (or fourth week of the summer term). This privilege will be extended to a degree candidate only once.
3. A degree program may include a maximum of four hours of basic ROTC and a maximum of six hours of advanced ROTC.
4. The diploma of a candidate for a degree shall bear the date of the commencement at which the degree is awarded.
5. All requirements for the degree must be completed and certified by the registrar no later than forty-eight hours after final grades for the term are due. If a candidate for a degree is not certified by the appropriate deadline, the candidate will be graduated at the next scheduled commencement. The diploma will bear the date of the commencement at which the degree is awarded. It is the responsibility of the student to reactivate the degree petition for the appropriate term.

XIII. Undergraduate Degrees

B. Residency Rule

No student may be considered a candidate for a degree unless the final thirty-six credit hours required for the degree are earned in residence at Georgia Tech and approved by the major school.

XIII. Undergraduate Degrees

C. Ten-Year Rule

Work that was completed more than ten years prior to commencement must be validated by special examinations before it can be counted toward a degree.

XIII. Undergraduate Degrees

D. Requirements for a Degree

1. To be a candidate for a degree, undergraduate students must have passed or be enrolled in all courses required for the degree, must have a scholastic average for their entire academic program of at least 2.00, and must have done creditable work in their departmental courses so as to merit the recommendation for the degree by the chair and faculty of their school.
2. Students, with the approval of their school or specialization, may satisfy the requirements for an undergraduate degree by meeting all of the requirements associated with any one curriculum year in effect during the period of their enrollment in the Institute or during their last two years (prior to their enrollment at Georgia Tech) in the program at one of the RETP schools. A curriculum year is in effect for a student only if the student's date of matriculation is prior to the ending date of the spring term concluding that curriculum year.
3. Constitution and history examinations
    1. The Georgia law as amended March 4, 1953, requires that before graduation all students pass examinations or pass comparable courses in United States and Georgia history as well as the United States and Georgia constitutions.
    2. For courses that may satisfy the constitution and history requirements, refer to the Information for **Undergraduate Students/Academic Regulations** section of this catalog.
4. Regents' Testing Program. All students completing requirements for baccalaureate degrees are required by the University System of Georgia to pass an examination designed to measure proficiency in reading and English composition. This examination is known as the Regents' Test. It must be passed before a petition for graduation will be accepted. Students should obtain further information from the registrar.
5. Wellness Requirement
    1. Unless medically exempted, all students are required to satisfy the wellness requirement as specified in the Information for **Undergraduate Students/Academic Regulations** section of this catalog prior to graduation.
    2. The Health Information Record on file with the director of Health Services will be used to determine any medical exemptions from the wellness courses. All certificates of disability from personal physicians must be endorsed by Student Health Services before they will be accepted by the School of Applied Physiology.

XIII. Undergraduate Degrees

E. Graduation with Academic Distinction

1. For graduation with highest honor, the minimum scholastic average shall be 3.55. For graduation with high honor, the minimum scholastic average shall be 3.35. For graduation with honor, the minimum scholastic average shall be 3.15.
2. A student must have earned at least sixty semester credit hours (excluding remedial coursework) at Georgia Tech to graduate with highest honor, with high honor, or with honor.
3. In order to qualify for graduation with honors, all grades or grade corrections affecting the honors designation must be received and certified by the registrar no later than noon on Wednesday following the commencement.

XIII. Undergraduate Degrees

F. Second Undergraduate Degree

1. A student enrolled for a second undergraduate degree shall be classified as an undergraduate student, except that a graduate student wishing to pursue a second undergraduate degree will remain classified as a graduate student. A graduate student, with approval of the major school, may work toward a second undergraduate degree while pursuing a graduate program.
2. To be a candidate for a second undergraduate degree, a student must have the recommendation of the chair of the school concerned and the approval of the Undergraduate Curriculum Committee.
3. To obtain a second undergraduate degree, a student must complete all major required courses for the degree and earn credit for a total of at least thiry-six credit hours in excess of the requirement for any previous degrees earned.
4. All regulations in section XIII apply to students completing second undergraduate degrees.

XIII. Undergraduate Degrees

G. Minors

1. A student may complete a minor in another academic field while completing the requirements of his or her major degree program.
2. With the approval of the major school, the student should consult an advisor in the minor field, who can inform the student of the requirements for the minor.
3. When a student petitions for a degree, he or she should complete the petition for a minor and have it approved by the minor advisor. The petition for a minor must accompany the petition for the major degree when reviewed for approval by the major school.
4. The minor will be conferred at the same time the degree is conferred.
5. The minor will not be printed on the diploma, but both the degree and minor will be recorded on the student's transcript.
6. Minors may not be conferred retroactively upon students who have graduated.

XIV. Graduate Degrees

A complete description of Institute requirements for the master's and doctoral degrees is given in this catalog in the section titled "**Information for Graduate Students**." Students desiring to withdraw their name from the rolls of degree candidates must formally withdraw the petition for degree before the deadline specified in section **XIII.A.2**.

XV. Student Motor Vehicles

Students desiring to operate motor vehicles on campus are subject to all rules set forth by the Georgia Tech motor vehicle regulations.

XVI. Medical Regulations

A Medical Entrance Form and proof of required immunizations and tuberculosis screening must be on file with Student Health Services. Failure to provide this information may result in a health hold and delay of registration. All international students (F-1 and J-1 visas) are required to have health insurance coverage. Students may elect to purchase the health insurance made available by the health insurance provider contracted by Georgia Tech or may have their own comparable medical insurance.

XVII. Extracurricular Activities

A. Participation

1. In order to be eligible for participation in extracurricular activities, a student must satisfy the following requirements:
    1. be enrolled in a degree program
    2. maintain a schedule with at least six credit hours on a credit basis or be a student in the Division of Professional Practice on work term.
    3. not be on academic probation
    4. all student organization officers must be enrolled in Georgia Tech classes with at least six credit hours on a credit basis or be a student in the Division of Professional Practice on work term in Atlanta
2. Changes in academic standing that affect eligibility become effective when determined by the Institute at the end of each term (normally the Tuesday following final examination week), except that a student whose academic standing changes from good to probation shall remain eligible through the day preceding the first day of instruction of the following academic term.
3. Any student placed on academic drop/dismissal, review, suspension, or expulsion is immediately ineligible for participation.
4. Changes in disciplinary standing that affect eligibility become effective immediately.
5. Participation also requires satisfaction of any additional requirements established by the Student Activities Committee of the Academic Senate.

XVII. Extracurricular Activities

B. Scheduling of Events

1. All student organizations must make written application to, and receive permission from, the Division of Student Affairs to hold a social function.
2. In each term, the weekend before final examinations is closed to student-sponsored extracurricular events.

XVII. Extracurricular Activities

C. Student Organizations

1. All student organizations must adhere to the Conduct Code and Disciplinary Procedures for Student Organizations.
2. Every organization must renew its charter every year or when changing officers by submitting an Officer Update Form and by signing the Alcohol Policy Acknowledgement Form.
3. Requirements and standards for chartering a student organization are established by the Student Activities Committee of the Academic Senate and are available from the Division of Student Affairs.

XVII. Extracurricular Activities

D. Fraternity and Sorority Regulations

1. To be eligible for initiation, a student must be a full-time student not on academic or disciplinary probation.
2. The initiation of any individual must be registered with and approved by the Division of Student Affairs prior to the initiation.
3. The individual must meet all Georgia Tech Interfraternity Council (I.F.C.) or Panhellenic requirements concerning initiation.
4. All fraternities and sororities are subject to the rules established by the Georgia Tech I.F.C./ Panhellenic/National Pan-Hellenic and all Georgia Tech policies, rules, and regulations.

XVII. Extracurricular Activities

E. Intercollegiate Athletics Regulations

1. To be eligible for intercollegiate athletic competition, a student must satisfy the following requirements:
    1. be eligible to participate in extracurricular activities, as defined in section **XVII.A**;
    2. be carrying a full-time workload as defined in section **VI.A.3**;
    3. be making satisfactory progress toward a degree; and
    4. meet any further requirements of the NCAA or other governing organization; see the athletic director for details.
2. No student may be excused from regularly scheduled classes for athletic practice.
3. No student may participate in more than two sports in intercollegiate competition in any school year, except by permission of the Division of Student Affairs. Being manager or assistant manager is counted as participation within the meaning of this rule.

XVIII Academic Honor Code

Article I: Honor Agreement

Having read the Georgia Institute of Technology Academic Honor code, I understand and accept my responsibility as a member of the Georgia Tech community to uphold the Honor Code at all times. In addition, I understand my options for reporting honor violations as detailed in the code.

XVIII Academic Honor Code

Article II: Honor Code

Section 1. Statement of Purpose

The members of the Georgia Tech community believe the fundamental objective of the Institute is to provide the students with a high-quality education while developing in them a sense of ethics and social responsibility. We believe that trust is an integral part of the learning process and that self-discipline is necessary in this pursuit. We also believe that any instance of dishonesty hurts the entire community. It is with this in mind that we have set forth a student Honor Code at Georgia Tech.

Section 2. Objectives

An Honor Code at Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. It specifically aims to accomplish the following:

- Ensure that students, faculty and administrators understand that the responsibility for upholding academic honesty at Georgia Tech lies with them.
- Prevent any students from gaining an unfair advantage over other students through academic misconduct.
- Ensure that students understand that academic dishonesty is a violation of the profound trust of the entire academic community.
- Clarify what constitutes academic misconduct among students at Georgia Tech and what is expected of them by the Institute, the faculty, and their peers.
- Cultivate an environment at Georgia Tech where academic dishonesty is not tolerated among the students.
- Secure a centralized system of education and awareness of the Honor Code.

Section 3. Student Responsibilities

Students are expected to act according to the highest ethical standards. The immediate objective of an Honor Code is to prevent any students from gaining an unfair advantage over other students through academic misconduct. Academic misconduct is any act that does or could improperly distort student grades or other student academic records. Such acts include but need not be limited to the following:

- Possessing, using, or exchanging improperly acquired written or verbal information in the preparation of any essay, laboratory report, examination, or other assignment included in an academic course;
- Substitution for, or unauthorized collaboration with, a student in the commission of academic requirements;
- Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating authorship (plagiarism);
- False claims of performance or work that has been submitted by the claimant;
- Alteration or insertion of any academic grade or rating so as to obtain unearned academic credit;
- Deliberate falsification of a written or verbal statement of fact to a member of the faculty so as to

obtain unearned academic credit;

- Forgery, alteration, or misuse of any Institute document relating to the academic status of the student.

While these acts constitute assured instances of academic misconduct, other acts of academic misconduct may be defined by the professor.

Students must sign the Honor Agreement affirming their commitment to uphold the Honor Code before becoming a part of the Georgia Tech community. The Honor Agreement may reappear on exams and other assignments to remind students of their responsibilities under the Georgia Institute of Technology Academic Honor Code.

Section 4. Faculty Responsibilities

Faculty members are expected to create an environment where honesty flourishes. In creating this environment, faculty members are expected to do the following:

- Make known to their class as specifically as possible what constitutes appropriate academic conduct as well as what comprises academic misconduct. This includes but is not limited to the use of previously submitted work, collaborative work on homework, etc.
- Provide copies of old exams or lists of sample questions to the Georgia Tech library for students to review.
- Avoid the re-use of exams.
- Include a paragraph containing information about the Georgia Tech Academic Honor Code on the syllabus for each class they teach.
- Report instances of academic dishonesty to the Office of the Dean of Students.

In addition to the expectations listed previously, faculty have the authority to superimpose their own interpretations on some aspects of academic conduct including, but not limited to, the following:

- Old exams for use during open-book exams;
- Contents of formula sheets allowed on exams;
- Use of calculators on exams;
- Collaboration on out-of-class assignments;
- Use of previously submitted out-of-class assignments.

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XVIII Academic Honor Code

Article III: Honor System

Section 1. Governing Bodies

The Georgia Institute of Technology Academic Honor Code recognizes the present bodies given the power to enforce the academic regulations of the Institute. The Honor Code recognizes the Office of the Dean of Students to be the princial administrator to enforce Institute disciplinary measures as presently specified in Article **XIX Section B**, of the Rules and Regulations section of the current Georgia Institute of Technology General Catalog.

The Honor Code also recognizes the Student Honor Committee as the body given jurisdiction to hear all cases of alleged academic misconduct as currently specified in **XIX Section B**.

Section 2. Reporting Honor Code Violations

In order for an Honor Code to function, members of the Georgia Tech community must not tolerate violations of it by anyone. Community members are at their discretion to use any of three options to report suspected Honor Code violations:

1. A student may simply desire to confront the fellow student with the perceived infraction. While this option is most likely to enact widespread change in attitude and behavior among students (because violators would understand that they are violating the trust of their peers and not some abstract body of people), it is still expected that an alleged violator be taken before the Student Honor Committee if he or she persists in academic misconduct.
2. A student may choose to approach the professor of the class in which the alleged infraction occurred and seek his or her input on how to proceed. A result of a conference of this type would be the professor's awareness that the alleged violator needs closer monitoring to ascertain reasonable certainty of guilt before being brought before the Student Honor Committee.
3. A student may choose to seek the advice of an honor advisor (see Article III., Section 3). Meetings with honor advisors shall address issues of policy and procedure only. Specifics of an individual case are not to be discussed. After a consultation with an honor advisor, a student may choose to submit a formal accusation of academic misconduct to the Office of the Dean of Students.

Section 3. Student Honor Advisory Council

Students composing the Student Honor Advisory Council are to become well versed in all aspects of the Georgia Institute of Technology Academic Honor Code and the procedures for reporting an honor violation as well as those procedures for the trying of cases of suspected academic misconduct before the Student Honor Committee. The Council is to act as an information resource to all members of the Georgia Tech community on issues related to the Honor Code.

Membership

1. Members are to be selected by the vice president of Student Affairs or a designated person to carry out these duties.
2. Members must be full-time students at Georgia Tech and must be in good academic standing.
3. Once a member of the council, the student shall serve until he or she graduates, unless he or she resigns or is impeached.

4. Impeachment procedures are to be specified in the rules and/or bylaws of the Student Honor Advisory Council.
5. Membership shall be composed of no less than fifteen (15) students at any given time.

Duties and Responsibilities

1. To serve in an advisory capacity to any student(s) wishing to report an honor violation or any student(s) being accused of committing an honor violation.
2. To continually educate and maintain awareness among the Georgia Tech community regarding the Honor Code.
3. To limit discussion with students to issues of policy and procedure.

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XVIII Academic Honor Code

Article IV. Amending the Honor Code

Amendments to the Georgia Tech Academic Honor Code may be proposed by a two-thirds (2/3) vote of both the Undergraduate Student Council and the Graduate Student Senate, or by a petition of ten percent (10%) of the total population (undergraduate and graduate) directed to both the undergraduate student body president and the graduate student body president.

Amendments become part of this Honor Code upon ratification by two-thirds (2/3) of the votes cast in a special election open to the undergraduate and graduate students, provided that the proposed amendments have been published in the Technique at least one week prior to the vote by the student body and further provided that the amendments are approved by the Academic Senate.

Appendices or amendments of appendices which pertain to either the undergraduate student body or to the graduate student body may be proposed by a two-thirds (2/3) vote of the respective legislative body or a petition of at least ten percent of the respective student body directed to the respective student body president. These shall become part of this Honor Code upon ratification by two-thirds (2/3) of the votes in a special election of the respective student body, provided that the proposed appendices or amendments of appendices have been published in the Technique at least one week prior to the election, and further provided that the appendices or amendments of appendices are approved by the Academic Senate.

Appendix A: Graduate Addendum to the Academic Honor Code

I. Preamble

The Honor Code recognizes that graduate students are involved in research and scholarly activities that occur outside the classroom. Integrity and academic honesty are as fundamental to research and scholarly activity as they are to classroom activity. Therefore, this Appendix to the Honor Code is adopted to pertain to the academic activities of graduate students that occur outside of the classroom.

II. Scholarly Misconduct

Scholarly misconduct refers to misconduct that occurs in research and scholarly activities outside the classroom. It can include plagiarism, among other things. The consequences of scholarly misconduct are governed by Institute policy. The following definitions are taken from the Institute Policy on Scholarly Misconduct:

1. "Misconduct" or "scholarly misconduct" is the fabrication of data, plagiarism, or other practice that seriously deviates form those that are commonly accepted within the academic or research community for proposing, conducting, or reporting research or scholarly activity. It does not include honest error or honest differences in interpretation or judgments of data.
2. "Plagiarism" is the act of appropriating the literary composition of another, or parts of passages of his or her writings, or language or ideas of the same, and passing them off as the product of one's own mind. It involves the deliberate use of any outside source without proper acknowledgment. Plagiarism is scholarly misconduct whether it occurs in any work, published or unpublished, or in any application for funding.

Allegations involving scholarly misconduct fall under the Institute's Policy on Scholarly Misconduct. This document details the procedures involved with reporting allegations and with the handling of cases. All graduate students are encouraged to become familiar with this policy, which is available from the Office of the Provost.

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XIX. Student Code of Conduct

This reflects the Student Code of Conduct at the time of the posting of the catalog Web site. The official Code of Conduct reflecting all changes can be found on the Dean of Students Web site at www.deanofstudents.gatech.edu/integrity/index.html. In the event of any conflict, the Code found on the Dean of Students Web site will govern.

A. General

Purpose of the Disciplinary System:

A student enrolling in the Georgia Institute of Technology assumes an obligation to conduct himself or herself in a manner compatible with the Institute's function as an educational institution. Actions considered inimical to the Institute and subject to discipline fall into the categories of academic and nonacademic misconduct. The Student Code of Conduct clearly defines these expectations and outlines the adjudication process. The purpose of the Student Code of Conduct is to educate all members of the Georgia Tech community and to maintain an environment conducive to academic excellence.

Authority for Student Discipline

The Board of Regents' ("BOR") policies and bylaws "give institutions responsibility for discipline of students, formulation of rules, and determination of punishment for violations to the Institution." In addition, the Board of Regents and the Georgia Tech Statutes and Bylaws empower the faculty to make rules and regulations for students and their activities per BOR 401.1, 401.4, 406, 302.06 and Georgia Tech Statutes and Bylaws 2.4, 2.4.3.3(F), 2.5.4.

Student Participation

Students as members of the Institute's community are asked to assume positions of significant responsibility in the Institute's judicial system in order that they might contribute their skills and insights to the resolution of disciplinary cases. Final authority in disciplinary matters, however, is vested in the BOR in the Institute's administration.

Definitions (when used in this Code):

1. "Accused" can be defined as a student, group, or organization.
2. "Complainant" is defined as the accuser or the victim of an alleged violation.
3. "Dean of Students" means the Dean of Students or the Dean's designee.
4. "Group" means a number of persons who are associated with each other, but who have not complied with Institute requirements for registration as an organization.
5. "Group or Organization Activity" means any activity on or off Institute premises that is directly initiated for or supervised by a group or organization including any individual activity occurring in buildings, facilities, grounds, utilities, or resources (including computer resources) owned, leased, operated, controlled, or supervised by an institute organization.
6. "Institution," "Institute," "Georgia Tech, " and any other permutations of Georgia Institute of Technology means the Institute and all of its undergraduate, graduate, and professional schools, divisions, and programs.
7. "Institute Official" is defined as faculty, administration, or staff personnel including students

serving as Institute employees.

8. "Institute Premises" means buildings, facilities, grounds, utilities, or resources (including computer resources) owned, leased, operated, controlled, or supervised by the Institute.
9. "Organization" means a number of persons who have complied with or are in the process of complying with the requirements for chartering.
10. "Student" means any person who is taking or auditing classes of the Institute, is participating in academic programs, is matriculated in any Institute program, has been accepted for enrollment, or is eligible to re-enroll without applying for readmission.
11. "Weapon" is defined in accordance with state law, and also includes any object used to attempt bodily injury or substance designed to inflict a wound or cause injury.
12. "Will or "shall" are used in the imperative sense.
13. "Witness" is defined as a person present before the hearing panel providing evidence.
14. "Working Day" is defined as any days when class is in session per the Institute calendar. Final exam periods are not considered working days.

Interpretation of Regulations

The purpose of publishing disciplinary regulations is to give students general notice of prohibited behavior and the judicial process. This Code is not written with the specificity of a criminal statute and should not be confused with criminal proceedings. Judicial proceedings are not restricted by the rules of evidence governing criminal and civil proceedings. Questions of interpretation regarding the Student Code of Conduct shall be referred to the Dean of Students for resolution.

Inherent Authority

The Institute reserves the right to take necessary and appropriate action to protect the safety and well being of the campus community.

Addressing Inappropriate Classroom Behavior

The primary responsibility for managing the classroom environment rests with the instructor. Students who engage in any prohibited or unlawful acts that result in disruption of a class may be directed by the instructor to leave the class for the remainder of the class period. Longer suspensions from a class, or dismissal from the Institute on disciplinary grounds, must be administered by the Dean of Students in accordance with this Code.

Jurisdiction

Academic misconduct relevant to any Institute activity will be addressed wherever it may occur. Nonacademic misconduct includes the acts identified in Section D of this Code whenever such acts:

1. occur on Institute premises;
2. occur at Institute- sponsored activities;
3. occur at group or organization activities;
4. create a clear and present danger of material interference with the normal or orderly processes of the Institute or its requirements of appropriate discipline.

Disciplinary Action While Criminal Charges Are Pending

Students may be accountable both to civil authorities and the Institute for acts that constitute violations of law and of this Code. Disciplinary action at the Institute will normally proceed during pending criminal proceedings, and will not be subject to challenge on the ground that criminal charges involving the same incident have been dismissed or reduced. Students charged with felonies may be interim suspended and given the opportunity to request a review of the decision as provided in Section B (Administration of the Judicial Process, Interim Suspension for Individuals and Student Groups/Organizations) of the Code.

Agreements With Other Schools

Where there is conflict between provisions of this Code and tenets of an agreement with other schools, the agreement takes precedence.

Student Organizational Discipline

Student groups and organizations are accountable to this Code. A student group or organization and its officers may be held collectively and individually responsible when violations of this Code by those associated with the group or organization have received the consent or encouragement of the group or organization, or of the group's or organization's leaders or officers. For more information, please see the Conduct Code and Disciplinary Procedures for Student Organizations.

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B. ADMINISTRATION OF THE JUDICIAL PROCESS

Case Referrals

All acts of misconduct (except as specified by the Dean of Students in writing) on the part of students shall be reported to the Dean of Students, who is designated the principal administrator to formulate and enforce Institute disciplinary measures as they pertain to student academic or nonacademic misconduct. Any person may refer a student or a student group or organization suspected of violating this Code to the Dean of Students. Those individuals referring cases are normally expected to provide testimony and to present relevant evidence in hearings and conferences.

Communication

All judicial communication (requests for meetings, notifications, notice of judicial actions, etc.) will be provided via the official Institute e-mail (GT number) address. If the student is not currently enrolled, the notification will be sent via U.S. Postal Service to the last known physical address.

Revocation of Degrees

The Institute reserves the right to revoke an awarded degree for fraud related to the receipt of the degree, or for serious disciplinary violations committed by a student prior to the student's graduation.

Interim Suspension for Individuals and Student Groups/Organizations

Interim suspension is for an interim period pending disciplinary or criminal proceedings or physical or mental evaluation. In certain circumstances, the Dean of Students may impose an interim suspension, which shall become immediately effective without advance notice and prior to the actual hearing of the allegations.

1. Interim suspension may be imposed:
    1. to ensure the safety and well-being of members of the Institute community or to preserve Institute property;
    2. to ensure the student's physical or emotional safety and well-being;
    3. if the student or student group/organization poses a definite threat of disruption of or interference with the normal operations of the Institute;
    4. if the student is charged with a felony;
    5. if the leaders of an organization fail to respond in a timely manner to a formal request from the Office of Student Integrity of the Office of the Dean of Students.

2. During the interm suspension:
    1. individuals may be denied access to classes, campus facilities, and all other Institute activities or privileges;

    2. student organizations may be denied access to campus facilities and all other Institute activities or privileges; and

    3. and student organizations must cease all organizational activities.

3. The Dean of Students' Critical Response Evaluation Team, with appropriate members of the

Management Team (i.e. Department of Housing, Counseling Center, and Greek Affairs representatives), will determine if interim suspension is warranted. Any one member of this team may make the decision with review and ratification, if appropriate, by the remainder of the team within seventy-two hours of this decision.

4. A student or organization that has been suspended on an interim basis may submit a request to the vice president for Student Affairs or the vice president's designee for a review of the decision within five working days of the implementation of the suspension. A request for review of an interim suspension decision shall be made in writing and shall list all reasons that the student or organization contends that the interim suspension is unwarranted. The reasons for the request for review are limited to:
    1. the reliability of the information concerning the student's or organization's conduct, including the matter of identity; and
    2. whether the conduct and surrounding circumstances reasonably indicate that the continued presence of the student or organization on Institute premises poses a substantial and immediate threat to himself, herself, or to others or the stability and continuance of normal Institute functions.
5. The vice president for Student Affairs or designee will respond to the student or organization in writing within two (2) working days of the receipt of the request.

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C. PROHIBITED ACADEMIC CONDUCT

Academic misconduct (see **XVIII. Academic Honor Code**) is any act that does or could improperly distort grades or other student academic records. Such acts include, but need not be limited to, the following:

1. Possessing, using, or exchanging improperly acquired written or verbal information in the preparation of any essay, laboratory report, examination, or other assignment included in any academic course;
2. Substitution for, or unauthorized collaboration with, a student in the commission of academic requirements;
3. Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating the authorship (plagiarism);
4. False claims of performance for work that has been submitted by the claimant;
5. Alteration or insertion of any academic grade or rating so as to obtain unearned academic credit;
6. Deliberate falsification of a written or verbal statement of fact to a member of the faculty so as to obtain unearned academic credit;
7. Forgery, alteration, or misuse of any Institute document relating to the academic status of the student.

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D. PROHIBITED NONACADEMIC CONDUCT

Nonacademic misconduct by students, organizations, or groups includes, but is not limited to, the following:

1. Violations of the Georgia Institute of Technology Student Policy on Alcohol and Illegal Drugs and other substance violations including, but not limited to:
    1. underage use or possession of alcohol;
    2. possession or consumption of alcohol in unauthorized areas;
    3. use or possession of fake identification;
    4. distribution of alcohol to minors;
    5. behavior, while under the influence of alcohol, that endangers any person;
    6. drug abuse, including the use or possession (without valid medical or dental prescription), manufacture, furnishing, sale, or any distribution of any narcotic or dangerous drug controlled by law; this provision is not intended to regulate alcoholic beverages; and
    7. disorderly conduct associated with the use of alcoholic beverages including, but not limited to, boisterousness, rowdiness, obscene or indecent conduct or appearance, or vulgar, profane, lewd, or unbecoming language.
2. Intentionally pushing, unjustifiably striking or physically assaulting, or otherwise intentionally causing reasonable apprehension of such harm to any person
3. Disorderly conduct, including but not limited to:
    1. obstruction or disruption of teaching, research, administration, disciplinary procedure or process, or other Institute activities, including its public service functions or other authorized activities; or
    2. breach of the peace.
4. Behavior, that endangers any person
5. Unauthorized use of college facilities or premises, including:
    1. unauthorized entry into any Institute premises or remaining in any building after normal closing hours, or
    2. possessing, using, making, or causing to be made any key or any other means of access to any Institute premises without proper authorization.
6. Furnishing false information to any Institute official or offering false statement in any Institute disciplinary hearing
7. Forgery, alteration, replication, or misuse of any document, record, or identification upon which the Institute relies, regardless of the medium
8. Any physical or mental hazing action related to membership or connected with rites or

ceremonies of induction, initiation, or orientation into Institute life or into the life of any group or organization

9. Safety violations, including, but not limited to:
    1. intentionally initiating or causing to be initiated any false reporting, warning or threat of fire, explosion, or other emergency;
    2. tampering with safety devices, or other emergency, safety, or fire fighting equipment;
    3. setting or attempting to set an unauthorized fire;
    4. possession of unauthorized fireworks, firearms, ammunition;
    5. possession of dangerous weapons, materials, or chemicals; and
    6. unauthorized sale, possession, furnishing, or use of any bomb or explosive or incendiary device.
10. Theft and/or unauthorized possession or use of property or services belonging to the Institute, another person, or any other entity
11. Malicious or unauthorized damage to or destruction of Institute property or property belonging to another
12. Violation of rules governing residence in Institute-owned or controlled property, such as residence halls
13. Illegal gambling, including online
14. Failure to return or submit property or records of the Institute within the time prescribed by the Institute
15. Acting with any other person to perform an unlawful act or to violate an Institute regulation or policy
16. Failure to comply with:
    1. instructions or a direction of any properly identified Institute official while that person is acting in the performance of their duties; or
    2. the terms of a disciplinary sanction.
17. Failure to cooperate with investigative, judicial, or disciplinary proceedings
18. Harassing another person. This includes, but is not limited to, placing another person in reasonable fear of his or her personal safety through words or actions directed at that person, or substantially interfering with the working, learning, or living environment of the person.
19. Intentional violations of Georgia Institute of Technology regulations or policies, which are found on the Dean of Students' Web page at **http://www.deanofstudents.gatech.edu/policies_responsibilities/policies.html**. Such regulations or policies include the Institute Computer Network Usage Policy, as well as those regulations relating to entry and use of Institute facilities, use of amplifying equipment, campus demonstrations, parking, and student organizations.
20. Violation of the Georgia Tech Student Policy on Sexual Harassment and Sexual Misconduct or
21. Violation of any Board of Regents' policies or the laws of any city, county, state, or the United

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E. PROCEDURAL RIGHTS, ADJUDICATION, AND SANCTIONS

Procedural Rights of the accused

Students accused of an act of misconduct and summoned to a hearing before the Honor Committee, Graduate Judiciary Cabinet, Undergraduate Judiciary Cabinet, or Judicial Board have the right to:

1. be informed of the charge(s) and alleged misconduct upon which the charge is based;
2. be informed of the evidence upon which a charge is based and accorded an opportunity to offer a relevant response;
3. be accompanied by an advisor of their choice;
4. remain silent with no inference of guilt drawn therefrom;
5. call and question relevant witnesses (A witness is permitted to testify via electronic means - telephone, video conferencing, etc. - and permitted to be questioned through the chief justice/chairperson);
6. present evidence in their behalf;
7. be considered innocent of the charges until proven responsible by a preponderance of the evidence;
8. appeal, if requested; and
9. waive any of the above rights.

Investigation

The Institute's judicial process utilizes an investigatory model, not an adversarial model, in resolving allegations of misconduct with the primary goal of uncovering the truth. The Dean of Students or referring faculty member in the case of academic integrity allegations shall open an initial investigation. During the investigation, a student should continue to attend class and required Institute functions unless otherwise instructed by the Dean of Students. The investigation is closed in one of five (5) ways:

1. the accused is not charged.
2. the accused agrees to an Alternative Dispute Resolution.
3. the accused agrees to an administrative conference/resolution.
4. the accused agrees to a faculty conference/resolution.
5. the Dean of Students issues a decision based on the hearing panel's findings and recommendation.

Forums of Adjudication

Alternative Dispute Resolution

At the sole discretion of the Dean of Students, cases may be assigned for Alternative Dispute Resolution ("ADR"). If ADR is not agreed to by both parties, the remaining forums will adjudicate the case. Results of the ADR proceedings do not require the accused to acquire a formal discipline record; however, ADR cases will be considered "prior violations" if future infractions occur. ADR is available only for an accused's first violation in cases where if adjudicated, the resulting sanction would be less severe than probation. The ADR agreement outlines the exact nature of the appropriate sanction to be administered if the agreement is violated. This agreement will close the case, as a student who chooses

ADR is granted no right of appeal.

Administrative Conference/Resolution

After the Dean of Students completes the original investigation, a proposed administrative resolution may be developed and presented to the accused upon the discretion of the Dean of Students. A proposed administrative resolution includes the charges under the Student Conduct Code, and outlines sanctions deemed by the Dean of Students and will be delivered via e-mail. Reasonable attempts should be made to discuss the allegations and proposed Administrative Resolution with the accused before its formal communication. The accused (with the exception of non-Greek organizations) may request to have the allegations reviewed by a hearing panel.) If the accused does not make this request within six working days after the communication of a proposed Administrative Resolution, the Resolution will be implemented. The Resolution is notice of a final disciplinary action with no right to appeal and contains the official record of charges and terms of the sanctions. If the Administrative Resolution would require a suspension, expulsion or removal from Housing, the allegations will be automatically forwarded to a hearing panel unless the accused specifically waives their right to go before a hearing panel and requests the administrative resolution to take effect and in writing accepts the administrative resolution. If the accused accepts the administrative resolution, the decision goes into effect immediately.

Should the accused fail to schedule or attend a conference with the administrative hearing officer within seven calendar days of the notice, or if the accused schedules a conference but does not attend, the administrative hearing officer can decide the disposition of the case and offer an administrative resolution tothe accused.

Hearing Panel

An accused Student, or Greek Organization may choose adjudication before a hearing panel. The Student or Greek Organization must request to go before a hearing panel within six working days of receipt of a proposed administrative resolution. The Dean of Students reserves sole discretion to forward cases to the appropriate panel including, but not limited to, the Undergraduate Judiciary Cabinet, the Graduate Judiciary Cabinet, the Student Honor Committee, or the Institute Judicial Board. The hearing panel composed of Students will make a recommendation to the Dean of Students as to the panel's fact-finding and sanctions. A hearing panel composed of faculty members and students will forward a decision to be implemented by the Dean of Students. Decisions of a hearing panel and a decision made after a recommendation from a hearing panel can be appealed by the accused.

If a student, Group, or Organization accused of non-academic misconduct chooses to have the case adjudicated by a hearing panel, the case will be forwarded to one of three boards: 1) the Undergraduate Judiciary Cabinet; 2) the Judicial Board; or 3) the Graduate Judiciary Cabinet. The Undergraduate Judiciary Cabinet hears cases of undergraduate nonacademic misconduct. The Institute Judicial Board hears cases of undergraduate nonacademic misconduct and has jurisdiction over the case if the event occurred in or around Institute Housing and if likely resulting sanction, if found responsible, is less severe than probation with few or noted exceptions. The Graduate Judiciary Cabinet has jurisdiction over all allegations of graduate student nonacademic misconduct. The Undergraduate and Graduate Judiciary Cabinet delegate to the Institute Judicial Board the right to adjudicate nonacademic violations as outlined in the Institute Judicial Board Procedures section. If a student accused of academic misconduct chooses to have the case adjudicated by a hearing panel, the case will be forwarded to the Student Honor Committee.

Notice of Hearing

Cases will be forwarded from the Dean of Students to the chairperson of the appropriate hearing panel. The chairperson, upon receipt of this case, will issue official notice to the accused containing the time, date, and location of the hearing, as well as possible sanctions that may result if the accused is found responsible. In addition, the notification should specify the nature of the allegation or suspected misconduct with which the student, group, or organization is accused and the names of all possible witnesses. This notification will be provided at least three calendar days prior to a scheduled hearing. Upon request, the accused may meet with the Dean of Student prior to the hearing to review evidence and procedure.

General Hearing Procedures

These procedures shall apply to all hearing panels charged with hearing cases under this Code.

Hearings shall ordinarily be closed except for the accused, the accused's advisor, the complainant, the complainant's advisor, and those directly involved; exceptions may be made at the discretion of the chairperson.

Members of the hearing panel shall disqualify themselves if their personal involvement in the hearing is of such a nature as to prejudice the outcome of the case. Any party may challenge any member of the panel for good cause by notifying the panel's chief justice/chairperson. The panel will hear the challenge and then meet privately to consider whether the request should be granted. The chief justice/chairperson shall not be removed if challenged. (The hearing panel's advisor may remove the chief justice/chairperson if clear conflict of interest or prejudice is determined by the advisor.)

Accused students, groups, or organizations who fail to appear after proper notice will be deemed to have pled "not responsible" to the charges against them and exercised the right to remain silent without prejudice. A hearing may be conducted in their absence at the discretion of the chairperson.

The hearing panel shall make a recording and/or summary transcription of the proceeding, which will serve as the official record of the hearing. No other recording devices will be permitted. The accused or the complainant may request a copy of the Institute's recording upon payment of the cost to reproduce the recording, or may listen to the original recording in a location designated by the Dean of Students at no charge.

The hearing panel's chairperson shall exercise control over the proceedings to avoid needless consumption of time and to achieve orderly completion of the hearing. The chairperson may exclude any person, including the accused who disrupts a hearing.

The complainant, if any, may be present throughout the hearing and respond to testimony. However, the complainant does not present the allegations against the accused. The complainant may bring a support person. The support person is not permitted to address the panel.

Testimony may be taken in person, in writing, or by other reliable means of communication including, but not limited to electronic, e-mail, telephone, or video conferencing.

The accused may bring as many witnesses as necessary to respond to the allegations. The accused is limited to two character witnesses. Letters of recommendation will be considered during deliberations.

Hearing panel deliberations are closed to all but the hearing panel members.

The hearing panel will consider past violations (but not until responsibility is determined), prior stipulations, the impact or potential impact of the violation the community and complainant, and the nature of the violation (including whether bias-based) when determining sanctions.

Decisions of the hearing panel shall be by majority vote. The hearing panel shall provide the Dean of

Students with a brief written summary of each case with a finding of fact. The student hearing panels will include in the written summary recommendations for appropriate disciplinary action to the Dean of Students. The Faculty Honor Committee decides sanctions and puts them in writing to be implemented by the Dean of Students. The Student hearing panels make recommendations in writing to the Dean of Students. The Dean of Students will review the case and recommendations and implement disciplinary action.

Panel Appointment Criteria

For Board or Committee specification appointment criteria see the Student Organizations' Web site (**http://www.deanofstudents.gatech.edu/policies_responsibilities/policies_student.html**) for the most recently approved constitutions and bylaws governing each of the student hearing panels and the Faculty Senate Web site (**www.facultysenate.gatech.edu**) for the most recently approved statutes and bylaws governing the Honor Committee.

Student Honor Committee Procedures

The Student Honor Committee ("SHC") is a committee of the Faculty Senate that shall hear all cases referred to it by the Dean of Students involving alleged dishonesty in academic matters on the part of students. They shall also hear all cases of students with prior academic dishonesty history, unless the accused is offered and accepts a sanction as part of an administrative resolution by the Dean of Students. Once a hearing has been scheduled before the SHC, the hearing cannot be cancelled and a student may not accept an administrative resolution without the approval of the chairperson.

Undergraduate Judiciary Cabinet Procedures

The Undergraduate Judiciary Cabinet ("UJC") is a student hearing panel that primarily shall hear allegations referred to it by the Dean of Students of undergraduate student nonacademic misconduct. The typical case heard by the UJC is likely to result in a sanction of disciplinary probation, suspension held in abeyance, suspension, or expulsion if a violation is found to have occurred.

Institute Judicial Board Procedures

The Residence Hall Judicial Board ("RHJB") serves as the Institute Judicial Board (IJB) in cases referred to it by the Dean of Students involving Code of Conduct violations originating both inside and in the immediate vicinity of Housing. The RHJB is not serving as the IJB when adjudicating violations of the Housing Contract, as well as the Housing Community and Services Guide. The IJB is a student hearing panel that shall hear allegations of student nonacademic misconduct which will most likely result in a sanction of reprimand or disciplinary warning, if a violation is found to have occurred. The IJB also may hear allegations of substance abuse violations which could result in probation. It will not consider substance abuse cases involving endangering behavior.

Graduate Judiciary Cabinet Procedures

The Graduate Judiciary Cabinet ("GJC"), a student hearing panel, shall hear allegations of graduate student nonacademic misconduct referred to it by the Dean of Students.

Organizational Judicial Board Procedures

All organizational hearing panels (for example, IFC, NPHC, and Panhellenic, etc.) designated by the Dean of Students to hear allegations of organizational violations of Institute policy are recommending bodies to the Dean of Students.

If the Dean of Students does not receive a recommendation from the Organizational Judicial Board within two months of the case being formally forwarded to the Board, the Dean will render the Institute's decision without the benefit of the Board's recommendation. The group will retain the right to appeal the decision to the Vice President for Student Affairs. Failure of the Board to recommend is not grounds for an appeal.

Potential Sanctions

Sanctions that may be imposed in accordance with this Code include but are not limited to the following:

1. Ineligibility to hold an office in any Student Organization recognized by the Institute or to hold any elected or appointed office of the Institute
2. Ineligibility to represent the Institute outside of the Institute or in a public activity of the Institute. This includes representing the Institute at any official function, intercollegiate athletics, or any forms of intercollegiate competition or representation
3. Reprimand:
   Verbal or written notice thatthe accused's behavior is inappropriate.
4. Disciplinary warning:
   A warning that continuation or repetition of prohibited conduct may be cause for additional disciplinary action and/or removal from good standing.
5. Disciplinary probation:
   Notice to the accused that any further major disciplinary violation may result in suspension or expulsion. Additional restrictions, conditions or loss of good standing may also be imposed. Violations of the terms of disciplinary probation, or any violation of this Code during the period of probation, will likely result in suspension or expulsion from the Institute.
6. Suspension Held in Abeyance:
   The sanction of suspension may be held in abeyance. If the accused is found in violation of this Code during the time of suspension held in abeyance, the suspension shall take effect immediately without review or hearing. Additional sanctions appropriate to the new violation also may be given. The accused who has been issued a suspension held in abeyance sanction is deemed "not in good standing" with the Institute. The length of the suspension held in abeyance shall be decided by the hearing panel or as a term of the administrative resolution.
7. Suspension:
   Exclusion for a period of time from the Institute premises, and other privileges or activities set forth in the suspension notice. A suspended student or student organization shall immediately leave campus and not enter the campus or its resources during the period of suspension, except when on official school business. Such suspension also may include academic restrictions, including denial of transfer credit for coursework completed at another institution during the period of suspension. Violation of this stipulation can adversely affectthe accused's chances for readmission. The Dean of Students will determine when the accused has met the requirements for readmission.
8. Expulsion:
   Permanent termination of the accused's status, and exclusion from Institute Premises, privileges, and activities

Non-standing related sanctions

1. Restitution:

Repayment to the Institute or to an affected party for damages resulting from a violation of this Code

2. Fine:
   A monetary penalty, paid to the Institute
3. Grade Change:
   Change of grade for the course in which a violation of the Honor Code occurred. This may include the assignment of an *F* grade in a course from which the student had withdrawn and received a grade of *W* .
4. Programmatic Sanctions:
   Assignment to educational programs that address issues important to the campus community (i.e., alcohol, community issues, anger management, etc.)
5. Restrictions:
   Exclusion from participation in social, privileged, or extracurricular activities for a specified period of time
6. Other Sanctions:
   Other sanctions may be imposed instead of or in addition to those specified such as discipline service hours, counseling assessments, and research projects.

The Institute will develop sanctioning guidelines for some violations of the Code. Guidelines are provided to give an understanding of likely sanctions but are not a required or guaranteed response to a violation.

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F. APPEAL PROCEDURES

These procedures apply to individual Student allegations. The process for Student Organization appeals is outlined in the Student Organization Code of Conduct which can be found on the Office of the Dean of Students Web site and in the appendices of this Code. If accused students are dissatisfied with the action taken by the Dean of Students, they may appeal the case in writing to the Vice President for Student Affairs of Georgia Tech within seven calendar days after the action about which there is a complaint was delivered. Such an appeal shall cite reason for dissatisfaction with the previous decision. An appeal is not a new hearing and shall be limited to review of the record of the initial hearing, supporting documents, the Student's appeal and the response of the panel and the Institute for one or more of the following purposes:

1. To determine whether the original hearing was conducted fairly in light of the charges and evidence presented
2. To determine whether the original hearing was conducted in conformity with prescribed procedures
3. To determine whether the sanctions imposed were appropriate for the violation which the Student was found to have committed
4. To determine whether new evidence, not available at the time of the hearing is relevant to the final decision

The Vice President for Student Affairs and the Student Grievance and Appeal Committee ("SGAC") may contact any person or entity needed to adequately review the appeal.

The Vice President of Student Affairs, within ten (10) working days, shall refer the appeal to the SGAC. (See the Faculty Senate Web site, **www.facultysenate.gatech.edu** for the most recently approves statutes and bylaws governing the SGAC.) Within ten working days, the SGAC shall review all facts and circumstances connected with the case and shall make its report thereon to the Vice President for Student Affairs. Within five working days after receiving the SGAC report and after consideration of the committee's report, the Vice President for Student Affairs shall make a decision. The Vice President for Student Affairs may:

1. overturn the SGAC's recommendation;
2. uphold the recommendation;
3. modify the recommendation; or
4. remand the case to the original hearing panel.

The Board of Regents of the University System of Georgia (the "Board") is the final appellate authority for all cases involving students who have been suspended or expelled. Should aggrieved persons be dissatisfied with the decision of the Vice President for Student Affairs, they may apply to the Board, without prejudice to their position, for a review of the decision. The application for review shall be submitted in writing to the executive secretary of the Board within a period of twenty (20) business days following the delivery of the decision of the Vice President for Student Affairs. The controlling Bylaws of the Board governing appeals may be found at **http://www.usg.edu**. This application for review shall state the decision complained of and the redress desired. A review of the Board is not a matter of right but is within the sound discretion of the Board. If the application for review is granted, the Board, or a committee of the Board, shall investigate the matter thoroughly and render its decision thereon within sixty (60) days from the filing date of the application for review or from the date of any hearing that may be held thereon. The decision of the Board shall be final and binding for all purposes.

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G. RECORD KEEPING AND RELEASE OF INFORMATION FOR INDIVIDUAL STUDENT CASES

Maintenance of Discipline Files

Disciplinary records of students found responsible for any charges against them will normally be retained for five years from the date of the most recent notice of disciplinary action. Disciplinary records containing records of suspension and expulsion will be permanently retained.

A case referral results in the creation of a disciplinary file in the name of the accused student. This file shall be voided if

1. there are no charges filed, or
2. the case is determined to be an informational file only, or
3. the student is found not responsible for the charges. Voided files will be so marked, shall not be kept with the active disciplinary records, and shall not leave any student with a disciplinary record. If the student is not enrolled when five years have passed and disciplinary action did not result in suspension, suspension held in abeyance, or expulsion, or a student terminates enrollment more than five years after a violation, the record is destroyed.

Release of Information

Open Records Act

The State of Georgia's Open Records Act, O.C.G.A. § 50-18-70 et seq., makes most records of the state open to public inspection. Such records include, but are not limited to: (1) directory information under FERPA (see below) and (2) records of completed hearings regarding student organizations.

Parental Notification

Parents of students under the age of 21 may be notified when a student is found responsible for violating the Georgia Tech Student Policy on Alcohol and Other Drugs when any of the following occur:

1. Students endanger themselves or others while under the influence of alcohol or other substances. Specific instances include DUI, fighting, alcohol poisoning, and hospitalization.
2. When the Dean of Students determines that any future violations of the Institute's policy will most likely result in suspension from Georgia Tech.
3. When a hearing officer determines that any future violations of the Institute's policy will likely result in removal from housing.

Other Releases

The Institute complies with the current Family Educational Rights and Privacy Act ("FERPA"). At the time of the posting of this Web site, FERPA generally provides that personally identifiable information may not be released without the student's consent. However, there are a number of exceptions to this rule, including, but not limited to, the following:

1. Institute officials, including teachers, who have a legitimate educational interest in the

information;

2. Officials of other schools in which the student seeks admission or intends to enroll, on the condition that the student, upon request, receives a copy of the record that has been transferred and has an opportunity to challenge, upon request, the content of the record;
3. Parents of a dependent student defined in the Internal Revenue Code, as evidenced by a notarized affidavit stating that the student is a dependent for income tax purposes;
4. Appropriate parties in a health or safety emergency. Factors to consider in determining whether personally identifiable information should be disclosed shall include:
    1. the seriousness of the threat to the health and safety of the student or other individuals;
    2. the necessity of gaining the information to deal with the emergency;
    3. the ability of the parties to whom the information is disclosed to deal with the emergency; and
    4. the extent to which time is of the essence in dealing with the emergency.
5. In response to a judicial order or lawfully issued subpoena. The university official must make a reasonable effort to notify the student of the order or the subpoena several days in advance of compliance, except when the subpoena was issued for a law enforcement purpose and states that the student is not to be notified.
6. In response to an applicable Open Records request.

Transcript Encumbrances

In pending cases that could result in suspension or expulsion, the Dean of Students will normally place a temporary encumbrance (hold) on a student's records. The Dean of Students will also place a hold on a student's records if the student fails to respond to an official request to meet or if the student fails to complete assigned sanctions.

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H. APPENDICES

Policies found on **http://www.deanofstudents.gatech.edu/integrity**:

1. Academic Honor Code
2. Conduct Code and Disciplinary Procedures for Student Organizations
3. Georgia Institute of Technology Student Policy on Alcohol and Illegal Drugs
4. Georgia Tech Student Policy on Sexual Harassment and Sexual Misconduct
5. Regents' Statement on Disruptive Behavior
6. Board of Regents' Policy 406.01 Withdrawal of Recognition of Student Organizations
7. Policy for Dealing with Student with Psychological Difficulties

Other Relevant Policies

1. Computer Use and Network Policy-**http://www.oit.gatech.edu/information_security/policy/usage/**
2. GT Parking and Transportation Services Motor Vehicle Registration-**http://www.parking.gatech.edu/**

XX. Student Academic Grievance Procedures

The procedures set forth here are intended to provide students at the Georgia Institute of Technology a means for setting forth grievances relating to academic matters and grade disputes when the student believes that an instructor has acted unfairly or improperly in assignment of grades. It is not the intention of these procedures to provide a forum for questioning the judgment or grading policies of faculty.

A. Applicability of the Grievance Procedures

1. Subject Matter:
   These procedures apply to the review of grievances concerning academic matters and grade disputes. Grade appeals must be initiated by the grievant within their next enrolled term following the term of the course in question, and best efforts should be applied to resolve the appeal within that term.
2. Grievant:
   These procedures shall be the appellate procedures for students at the Georgia Institute of Technology. Students who have pursued a formal grievance procedure or who have pursued informally the resolution of a grievance in their own school, college, or unit and have had that appeal dismissed, may submit the grievance for review under these procedures.

XX. Student Academic Grievance Procedures

B. Overview of Grievance Process

1. Informal resolution attempted at the school, department, or unit level.
2. Formal resolution sought at the school, department, or unit level.
3. Formal resolution sought at the Institute level: appeal reviewed and, if so determined, heard by the Student Grievance and Appeal Committee.

XX. Student Academic Grievance Procedures

C. Steps in the Grievance Process (to be followed in the order presented)

1. The student shall attempt to resolve the grievance with the individual faculty member, the department, or the unit involved.
2. If the grievance is not resolved in step C.1. and the student elects to continue the grievance process, the student may request a formal hearing setting forth in writing the complaint and the remedy sought at the school, college, or unit level. Upon receipt of such appeal, the unit director will acknowledge the appeal in writing within seven calendar days and will expeditiously proceed to constitute an ad hoc appeal committee. The unit director will serve as a nonvoting member of the committee. In addition, the following four committee members will be selected:
    1. One tenured faculty member from within the unit, selected by the unit director.
    2. One member of the academic faculty, selected by the student. The student may elect not to select a faculty member; in that case, the committee will consist of three members.
    3. One member from outside the unit, selected by the Student Grievance and Appeal Committee in consultation with the unit director.
    4. One member of the academic faculty selected by the faculty member whose action is in question.

    The committee will proceed with due haste to examine the merits of the complaint and to render a decision within thirty days. During the proceedings, the student may present any and all evidence that the student deems necessary to support the complaint, except that the committee must agree that the evidence is in some way relevant. Such evidence may consist of documentation and/or testimony, within reason. Both complainant and respondent may be accompained by advisors; the role of advisor must, however, be restricted to advice. Complainant and respondent must make their own cases before the committee.

    Following a hearing and a written decision at the school, college, or unit level, the grievance is presumed to be resolved unless the grievant appeals.
3. The grievant may appeal the decision that has been rendered by the school, college, or unit to the Student Grievance and Appeal Committee.
    1. If the Committee, or subset thereof appointed by the chairperson, rules that the procedures are not applicable or that based on the facts stated by the grievant viewed in the light most favorable to the grievant, there is no basis for relief, then the appeal is denied.
    2. If the Committee rules that the Institute procedural rules are applicable and that a hearing of the appeal is warranted, the Committee shall initiate a hearing process.
    3. If a student wishes to have a grievance outcome reviewed by the Student Grievance and Appeal Committee with a view to a formal hearing, the student shall observe the following requirements:
        1. The appeal must be in writing. It must state the basis for the grievance and the facts that support it, including a summary of the steps that have already been taken to resolve the grievance, reasons why the student finds the resolutions unfair or unsatisfactory, and a statement of the desired remedy.

2. The written appeal must be presented to the chairperson of the Student Grievance and Appeal Committee within thiry days after the student has received notice of a decision from a school, college, or unit.
3. The decision as to whether a formal hearing is warranted shall be made available, in writing, to the parties concerned within thirty days after the Committee has received notice of the appeal.
4. The Committee may alter a deadline specified in these procedures on written petition of either party showing a meritorious reason for delay; if the Committee itself needs to extend a deadline, it may do so on its own authority for periods up to fourteen calendar days; for longer delays, the Committee must request an extension from the Executive Board of the Institute.
5. The determination of the Committee as to whether a hearing is warranted is final.
6. The Committee shall develop and, with the approval of the Academic Senate, establish and publish its own rules of procedures for the conduct of formal hearings.
7. After receiving testimony and the relevant documents, the Committee shall make a decision within thirty days on the basis of the received material.
8. The Committee's decision shall contain finding of fact, the decision arrived at, reasons for the decision, and the criteria or policy applied in reaching the decision.

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XX. Student Academic Grievance Procedures

D. Remedies

1. **General**
   If the Committee finds, after a formal hearing, that a faculty member, a departmental committee, or an administrator of a unit has not acted fairly or properly, it will recommend a remedy. It will seek to find a remedy that can be implemented by those whose cooperation is needed. In the matter of a grade dispute, this must include the faculty member involved in the dispute.

2. **Enforcement**
   1. If any party does not comply with the decision of the Committee, the Committee shall, upon request of any party, seek full compliance through the administrative offfices of the Institute through the chief academic officer (CAO).
   2. The merits of the dispute shall not be subject to review in the process of enforcement. There shall be strong presumption in favor of the remedy selected by the Committee.

3. **Report of a Final Decision**
   After a final decision has been made in a case, the Committee shall prepare a report setting forth its findings and recommendations for action and present the report to the CAO. A copy of the report shall be presented to the parties concerned and to those persons involved in implementing the Committee's recommendations. All such communications shall be effected in person or by certified mail with a return receipt requested; such receipt will become part of the Institute records of the case.

   Grade Changes: In decisions that would result in the changing of a posted grade, the CAO will instruct the unit director to ask the involved faculty member to effect the prescribed grade change or, if cooperation is not forthcoming, to effect the grade change directly by action of the unit director. Such action shall be construed as restrictive of the recourses of the faculty member through the usual appeal procedure of the Institute.

   Care will be given that no incomplete or inaccurate information pertaining to the grievance is placed in any file; and that all evidence obtained at any stage of the process and all deliberations and proceedings be kept confidential. At the conclusion of each case, the Student Grievance and Appeal Committee shall transmit original or true copies of the documents related to the case to the appropriate Office of the Vice President of Student Affairs, who shall keep such records securely as Institute records for a period of time specified by Institute statutes.

4. **Final Appeal**
   Appeal of the decision of the Committee to the CAO shall be permitted only for the purposes of procedural review. Such appeals shall be submitted in writing, with copies to the Committee. The CAO will review the findings of the Committee and, upon judgment that the Committee has failed to follow these procedures or has failed to follow the procedures approved by the Academic Senate for the operation of the Student Grievance and Appeal Committee (XX1.C.3.c.c6), return the case to the Committee for reconsideration, along with description of the preceived error in procedure and a recommendation for its correction.

XXI. Exceptions

Where appeals are not otherwise specified, exceptions to these regulations may be made by the appropriate faculty committee upon petition by the student and recommendation of the student's school or department. Blanket exceptions that have the effect of amending these regulations shall be referred to the Academic Senate for approval.

XXII. Student Bill of Academic Rights

1. The right to attend classes at regularly scheduled times without deviation from such time and without penalty if the student cannot attend instructional, lab, or examination hours not institutionally scheduled.
2. The right to consult with an assigned and qualified advisor for a reasonable amount of time each term.
3. The right to consult with faculty outside usual classroom time such as regularly scheduled office hours by appointment.
4. The right to have reasonable access to campus facilities of which use is required to complete course assignments and/or objectives.
5. The right to receive a syllabus for each course at the first class meeting. The syllabus should include an outline of the course objectives, criteria used in determining the course grade, and any other requirements. Students should be informed of any changes made to the syllabus with reasonable time to adjust to these changes.
6. The right to have reasonable time to learn course material prior to the administration of an examination.
7. The right of each student to receive access to any of his/her records kept by the institution.
8. The right to have reasonable access to grading instruments and/or evaluation criteria and to have graded material returned in a timely fashion.
9. The right to be informed of the grade appeals process.
10. The right to have reasonable facilities in which to receive instruction and examinations.
11. The right to be informed in each course of the definition of academic misconduct.

College of Architecture

College established in 1975,
School in 1948, Department in 1908
Location: 247 Fourth Street,
Atlanta, Georgia 30332-0155
Phone: 404.894.3880
Fax: 404.894.2678
Web site: **www.coa.gatech.edu**

General Information

The College of Architecture offers three undergraduate programs - Architecture, Building Construction, Industrial Design - leading to the bachelor of science degree and graduate programs in architecture, building construction, city and regional planning, and industrial design leading to the Master of Architecture, Master of Science in Building Construction and Integrated Facility Management, Master of City and Regional Planning, Master of Industrial Design, Master of Science, and Doctor of Philosophy degrees.

The original mission of the College, established as the Department of Architecture in 1908, was to prepare students for the professional practice of architecture. During the past ninety years, the mission of the College has expanded, both to provide continued leadership and to respond to changes in the professions and society. From its original focus on the practice of architecture, the College has become a multidisciplinary setting for teaching, research, and service at every scale of the constructed environment ranging from the design and production of the smallest utilitarian object to the planning and design of the city. The undergraduate programs of study and the graduate programs of study and research are fully described in the following sections.

All work executed in the College becomes the property of the College and will be retained or returned at the discretion of the faculty. The faculty also reserves the right to refuse for credit any project executed outside the precincts of the College or otherwise executed without proper coordination with the faculty.

Common First Year

All freshmen enter as undesignated majors within the College of Architecture. All students, including transfer students, must complete a three-course sequence (COA 1060 - Introduction to Design and the Built Environment, COA 1011 - Fundamentals of Design and the Built Environment I, and COA 1012 - Fundamentals of Design and the Built Environment II), in addition to other courses scheduled for the freshman year or appropriate courses for transfer students. During the spring semester of the first year, students enrolled in COA 1012 will prepare a portfolio and application to one of the three undergraduate programs within the College of Architecture: Architecture, Building Construction, or Industrial Design. Admission to one of the three programs will be determined by the student's performance at Georgia Tech, portfolio review, program application information, and other academic information that was used to admit the student to Georgia Tech. Admission to a specific program may be limited by available space and resources needed to accommodate a maximum number of majors in the second-year program courses. Students will be notified concerning their acceptance to a specific program before the end of the spring semester.

Faculty

Dean and Professor

Thomas D. Galloway

Associate Dean and Professor

Douglas C. Allen

Associate Dean and Associate Professor

Sabir Khan

Thomas W. Ventulett III Distinguished Chair in Architectural Design

Nader Tehrani

Harry West Chair of City and Regional Planning

Catherine L. Ross

Professors

Libero Andreotti, Philip Bryant, Frank Clark, Cheryl K. Contant, Robert M. Craig, Elizabeth M. Dowling, Charles Eastman, Steven P. French, Roozbeh Kangari, Edward L. Keating, Nancey Green Leigh, Ronald B. Lewcock, John Peponis, David S. Sawicki, Craig M. Zimring.

Professors Emeriti

Arnall T. Connel, Thomas N. Debo, Dale Durfee, Rufus Hughes, John Kelly, H. Randal Roark, Roger F. Rupnow, John A. Templer.

Associate Professors

Godfried Augenbroe, Wayne Chung, Richard Dagenhart, Harris H. Dimitropoulos, Ellen Yi-Luen Do, Michael Dobbins, William J. Drummond, Ellen Dunham-Jones, Athanassios Economou, Michael L. P. Elliott, T. Russell Gentry, Dan Immergluck, Christopher Jarrett, George B. Johnston, Jude LeBlanc, Kevin Reeder, Charles Rudolph, Saeid Sadri, Stephen Sprigle, Felix Uhlik, Jerry Ulrich.

Assistant Professors

Sonit Bafna, W. J. Blane, William Caldwell, Ruchi Choudhary, Parag Chordia, Mark Cottle, Ruth Dusseault, Jason Freeman, Michael Gamble, Frances Hsu, Ron Mendola, David Ringholz, Kathy Roper, William H. Russell, Tina Simonton, David Sledge, Clifford H. Stern, Andrea Strauss, Brian Stone, Linda Thomas-Mobley, Franca Trubiano, Gil Weinberg, Jiawen Yang.

Instructors

Ed Akins, Marc Bedarida, James Butler, Peter Ciaschini, Jamie Cochran, Mark Collins, Richard Ducree, Denise Dumais, Danny England, Lane Duncan, Nickolas Faust, Ann Gerondelis, Carol Gill, Judy O'Buck Gordon, David Green, David Haddow, Tim Harrison Herman Howard, Timothy Johnson, Max Kleinsteuber, Andrea Korber, David Lackey, Mark Landers, Brian Leary, Leslie Lowe-Brown, Nadine Levy, John Matthews, Mark McJunkin, Joyce Medina, William Patton, Frederick M. Pearsall, Tim Purdy, Richard Rodgers, Stuart M. Romm, Michael Rowan, Samuel Skelton, Jason Snyder, Carols Tardio, Mary Turnipseed, Anja Valero, Damien Valero, Greg Walker, Maureen Weidner, Tom Whatley, Jordan Williams, Wendell Wilson, David Yocum.

Research Engineers

Scott Haynes, Hector Huacuja-Henry, Maureen Linden, Karen Milchus, Ramachandra Sivakumar, Yi-Chang James Tsai.

Research Scientists/Associates

Danielle Ayun, Paul Beaty, Jason Barringer, Randy Bernard, Karl N. Brohammer, Carrie Bruce, Joanie Chembars, Sarah Endicott, Anthony Giarrusso, Alan Harp, Shelley Kaplan, Karen Leone de Nie, Subrahmanyan Muthukumar, Steve Park, Dory Sabata, Jon Sanford, Jonathan Shaw, Brenan Stearns, Robert Todd, Mike Williams.

Senior Academic Professional

Anatoliusz Lesniewski

Academic Professional

Tripp Edwards

Summer Study in Italy (Available to all majors)

The College of Architecture offers a summer semester program intended to provide students the opportunity to study the art and architecture of Italy. The primary academic mission of the program is to expand the opportunities for study of the humanities at Georgia Tech. Headquartered in Rome, Florence, and Venice, the program involves a five-week concentrated and intensive study at the buildings, sites, and museums where works by Michelangelo, Uccello, Leonardo, Brunelleschi, and Caravaggio were originally carried out. In addition to painting, sculpture, and architecture, attention is given to the urban context extending from classical antiquity through the Renaissance and late Baroque periods. On-site studies at the Roman Forum, Pompeii, Herculanium, Ostia, Paestum, Hadrian's Villa, Villa D’Este, Villa Giulia, The Vatican Museum, Borghese Museum, Basilica of St. Peter, and other sites provide students with a deeper understanding and appreciation for the role that Italy has played as the artistic, engineering, and political cornerstone of the western world. Twelve credit hours are offered, six of which satisfy Institute undergraduate humanities requirements. The remaining six hours are taken as free electives and involve faculty-directed independent study of topics developed during the spring term.

Certificate and Minor Programs

The College of Architecture offers certificate programs in Architectural and Design History, City and Regional Planning, and Music, as well as undergraduate minor programs in Architectural History, Music, and a multidisciplinary minor in Design/Arts History. The certificates require a minimum of nine or twelve semester hours of concentration depending on the area. Minor programs require at least eighteen hours of concentration (at least twelve hours taken at the 3000 level or above). Academic advisors in the relevant programs should be consulted for details.

Undergraduate Minor in Multidisciplinary Design/Arts History

The College of Architecture offers a minor for students in all disciplines at Georgia Tech. The minor requires completion of one of three available core survey sequences in the history of design (ARCH 2111 and 2112 [or ARCH 4105 and 4106] or COA 2241 and 2242 or ID 2202) in addition to four courses from at least three lists of courses in: history of architecture, the history of industrial design, the history of the city/landscape/garden, history of art and foreign study, and music history. Architecture and Industrial Design program students must select a core survey sequence outside their major, or select two additional electives from approved lists. Interested students should consult with the associate dean for Undergraduate Studies and Creative Activity for more details.

College of Architecture - Degrees and Programs Offered

College of Architecture

ARCHITECTURE PROGRAM

Bachelor of Science with a Major in Architecture

Bachelor of Science with a Major in Architecture Int'l Designator Option #1 (Paris)

Bachelor of Science with a Major in Architecture Int'l Designator Option #2

Master of Architecture (M.ARCH I)

Master of Architecture (M.ARCH II)

Master of Science with a Major in Architecture

Doctor of Philosophy with a Major in Architecture

Dual Degree Programs:

Architecture & City & Regional Planning

BUILDING CONSTRUCTION PROGRAM

Bachelor of Science in Building Construction

Master of Science in Building Construction and Integrated Facility Management - IFM Track

Master of Science in Building Construction and Integrated Facility Management - IPDS Track

Doctor of Philosophy with a Major in Architecture (Building Construction)

CITY & REGIONAL PLANNING PROGRAM

B.S. / M.CRP

Master of City and Regional Planning

Doctor of Philosophy with a Major in Architecture (City and Regional Planning)

Dual Degree Programs:

City & Regional Planning & Environmental Engineering

City & Regional Planning & GSU Juris Doctor degree program

City & Regional Planning & Public Policy

City & Regional Planning & Civil Engineering

City & Regional Planning & Architecture

City & Regional Planning & Civil Engineering

INDUSTRIAL DESIGN PROGRAM

Bachelor of Science in Industrial Design

Master of Industrial Design

Doctor of Philosophy with a Major in Architecture (Industrial Design)

DEPARMENT OF MUSIC

Doctor of Philosophy with a Major in Architecture

The program leading to the Doctor of Philosophy degree in the College of Architecture has been developed to enable students of exceptional ability to undertake advanced study and original research in the fields of study within the College of Architecture. Currently the program includes several fields of study:

1. City and Regional Planning
2. Architecture, Culture, and Behavior
3. Architectural History, Theory, and Criticism
4. Building Construction
5. Building Technology
6. Design Computing
7. Design Cognition
8. Spatial and Architectural Morphology

Several areas of study within city and regional planning are available for dissertation research: environmental planning, economic development, transportation planning, land and housing economics, urban and regional development, information systems, and land use planning.

The field of Architecture, Culture, and Behavior explores how individual, organizational and cultural behavior, performance and experience relate to the design of buildings and urban space. Current studies explore the following topics, among others: healthcare facilities that support higher quality care; workplaces that support new models of work; building and urban designs that promote health and active living; public buildings that promote functional and symbolic needs; wayfinding and environmental cognition and perception, and others.

The Architectural History, Theory, and Criticism (HTC) field is oriented towards historical and critical inquiry of architectural practice, thought, and criticism. Studies on topics related to interpretive methodology such as representation, meaning, and style are a distinctive focus of the HTC program at Georgia Tech.

Studies in Building Technology are concerned with the lifecycle performance of technical building systems, including the development and application of advanced knowledge in design processes, evaluation methods, intelligent and adaptive technologies, and indoor environmental factors.

Building Construction has several areas of research including: construction management, risk management and decision support systems, integrated construction project delivery systems (design-build, construction management, negotiated team, cost-plus with gmp, bridging, and others); integrated facility management; indoor environment; international construction; construction robotics and automation; e-business in construction; life cycle cost analysis.

Design Computing focuses on the development of information technologies in support of design and construction. Current areas of research include building repositories, electronic design environments, human computer interfaces, building product models, formal approaches to composition, smart buildings and objects, direct fabrication of designs (building CAD/CAM), and parametric modeling.

Design Cognition is concerned with the reasoning, processes, models, and methods about how design skills, information, behaviors and expertise are learned, applied and represented. Research areas

include sketch understanding, visual and spatial reasoning, mental imaging, cognitive process of problem solving, design moves and creativity.

Spatial and Architectural Morphology is concerned with the principles that govern layouts, their meaning, functions, and social implications at urban and building scales. It includes analytical studies of spatial form.

For further details on the program, contact:

Ph.D. Program Director
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155
Phone: 404.894.3476
Web site: **www.coa.gatech.edu/phd/**

General Information

Within the overall mission of the Architecture Program, the undergraduate program in architecture has three major objectives:

1. To provide a general university education within the context of Georgia Tech and within the study of architecture both as an intellectual discipline and as a profession. The objective of the program is to expose students to many different fields of study while demonstrating how they are related.
2. To provide a multi-disciplinary foundation of education in architecture with a focus on the architectural design studio as its primary setting. In addition to design studios, the program includes required courses in the subject areas of architectural history and theory, architectural technology, and visual arts and design computing.
3. To provide for the development of individual student interests through a substantial number of free and required electives, which comprise almost one-third of the undergraduate curriculum. This flexibility allows a student to pursue specific interests within the discipline of architecture, within the associated programs of City Planning, Building Construction or Industrial Design, or in joint programs with other disciplines on campus.

Accreditation

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

Master's degree programs may consist of a Pre-Professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the Pre-Professional degree is not, by itself, recognized as an accredited degree.

Common First Year

All freshmen enter as undesignated majors within the College of Architecture. All students, including transfer students, must complete a three-course sequence

1. COA 1060 – Introduction to Design and the Built Environment
2. COA 1011 – Fundamentals of Design and the Built Environment I, and
3. COA 1012 – Fundamentals of Design and the Built Environment II

in addition to other courses scheduled for the freshman year or appropriate courses for transfer students. During the spring semester of the first year, students enrolled in COA 1012 will prepare a portfolio and application to one of the three undergraduate programs within the College of Architecture: Architecture, Building Construction, or Industrial Design. Admission to one of the three programs will be determined by the student's performance at Georgia Tech, portfolio review, program application information, and other academic information that was used to admit the student to Georgia Tech. Admission to a specific program may be limited by available space and resources needed to accommodate a maximum number of majors in the second-year program courses. Students will be notified concerning their acceptance to a specific program before the end of the spring semester.

Bachelor of Science with a Major in Architecture

The undergraduate program in architecture is a four-year, Pre-Professional program leading to the Bachelor of Science degree. It seeks to provide:

1. a general university education in the liberal arts, fine arts, and technology;
2. a multidisciplinary foundation in architectural studies with the design studio as a major focus of the curriculum; and
3. substantial opportunities for students to explore other disciplines, to concentrate studies in certificate programs, cluster electives, or dual degree programs.

This Bachelor of Science program prepares students for graduate-level studies in architecture, for graduate study in related fields, or a variety of careers related to architecture, the building industry, or government service.

Telephone: 404.894.4885
Web site: **www.coa.gatech.edu/arch/**

Grade Requirements

Students must maintain a minimum 2.0 grade point average in each year's grouping of architectural design studio courses (e.g., ARCH 2011, 2012, etc.) in order to enter the next sequence of studio courses. Each sequence of design studio courses must be started in the fall semester. A maximum of nine credit hours may be taken on a pass/fail basis. Only courses taken as free electives within the undergraduate curriculum are eligible for pass/fail credit. See **Institute regulations regarding pass/fail courses**.

Students who complete both the bachelor's and master's degrees in architecture in the College may apply up to six credit hours of graduate coursework for both degrees. In order to qualify for this option, the student must complete the undergraduate degree with a cumulative grade point average of 3.5 or higher and complete the master's degree within a four-year period from the award date of the bachelor's degree.

BACHELOR OF SCIENCE (UNDESIGNATED)
2006-2007 DEGREE REQUIREMENTS
Architecture Program
Suggested Schedule

FIRST YEAR-FALL	HRS
COA 1011 FUNDAMENTALS OF DESIGN I	3
COA 1060 INTRODUCTION TO DESIGN	3
COMPUTING REQUIREMENT	3
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
COA 1012 FUNDAMENTALS OF DESIGN II	4
ENGL 1102 ENGLISH COMPOSITION II	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
ARCH 2011 DESIGN STUDIO I	4
ARCH 2111 HISTORY OF ARCHITECTURE I	3
ARCH 2211 CONSTRUCTION TECHNOLOGY & DESIGN	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
ARCH 2012 DESIGN STUDIO II	4
ARCH 2112 HISTORY OF ARCHITECTURE II	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
WELLNESS	2
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
ARCH 3011 DESIGN STUDIO III	5
ARCH 3241 FUNDAMENTALS OF STRUCTURES	3
COLLEGE OF ARCHITECTURE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
ARCH 3012 DESIGN STUDIO IV	5
ARCH 3231 ENVIRONMENTAL SYSTEMS & DESIGN INTEGRATION I	3
HUMANITIES ELECTIVE(S)	3
ARCH 4411 INTRODUCTION TO VISUAL ARTS or ARCH 4420 INTRODUCTION TO DESIGN COMPUTING	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-FALL	HRS
CLUSTER ELECTIVE(S)	5
COLLEGE OF ARCHITECTURE ELECTIVE(S)	3
FREE ELECTIVE(S)	9

TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	**HRS**
CLUSTER ELECTIVE(S)	5
COLLEGE OF ARCHITECTURE ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 129 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities Electives

Twelve credit hours of humanities courses are required. The required ENGL 1101 and 1102, and any other six credit hours of **Institute-approved humanities courses**, satisfy this requirement. Courses with ARCH prefixes will not satisfy this requirement for ARCH majors.

Social Sciences Electives

Twelve credit hours of approved social sciences courses are required. To satisfy the state requirement regarding coursework in the **history and constitutions** of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, INTA 1200, or PUBP 3000. Either ARCH 4126 or HTS 3011 is also required. Any other six credit hours of **Institute-approved social science courses** will satisfy the remainder of this requirement.

Science Electives

Eight credit hours of science courses are required. The required PHYS 2211 and any other four credit hours of Institute-approved science courses satisfy this requirement.

College of Architecture Electives

Twelve credit hours of approved College of Architecture electives are required, including either ARCH 4411 or ARCH 4420. Courses chosen from the list of required courses for the M.Arch.I degree or any other courses taught in the College and not otherwise required will satisfy this requirement. The selection of any architecture elective should be made in consultation with the student's academic advisor.

Cluster Electives

A minimum of ten credit hours in a concentrated cluster is required for the B.S. degree. Clusters may be made up from courses from within or outside of the College. This requirement may be fulfilled by the senior-year sequence of architectural design (ARCH 4011 and ARCH 4012), by a ten-hour concentration approved by the architecture faculty, or by several existing certificate programs offered on the campus.

Free Electives

Twenty-one credit hours of free electives are included in the curriculum to allow students to pursue architectural studies in additional depth or to pursue other educational interests within or outside the College. Courses chosen from the list of required courses for the M.Arch. degree or any other courses taught in the College or Institute and not otherwise required will satisfy this requirement.

The selection of these courses should be made in consultation with the student's advisor. Military training is an optional program of the Institute. A degree program may include a maximum of four hours of basic ROTC and a maximum of six hours of advanced ROTC. No course covering the same material as other courses may be applied for credit for the B.S. degree.

Bachelor of Science with a Major in Architecture - International Plan #1

The International Plan in the Architecture Program [IPAP] is a challenging and coherent academic program for undergraduate students who will develop an introductory level of global competence within the study of architecture. The International Plan is an intensive degree-long program designed to prepare students with the ability to:

1. assimilate comfortably in a constantly evolving international context within the profession of architecture
2. value how architecture is practiced in different global contexts
3. function effectively in a multi-national academic and work environment
4. understand the complexity of the global economy and the importance of developing a sensibility to international relations

While many students gain some exposure to these aspects of today's world through the patchwork of traditional international opportunities such as study abroad and international internships, IPAP is designed to develop a deeper level of competency in these areas within the study of architecture.

The requirements of IPAP are:

1. Proficiency in a Foreign Language
2. Globally Focused Courses
3. International Experience
4. Capstone Course

IPAP students can fulfill the International Experience requirement of the International Plan in one of two ways:

1. participation in the College of Architecture Paris Program or
2. participation at a university-approved international program with the approval of the Architecture Program.

For more information on IPAP, visit: **www.coa.gatech.edu/arch/international/**

Grade Requirements

Undergraduate students in the Architecture Program must hold a minimum of a 3.0 GPA at the time of application to be eligible for the International Plan in the Architecture Program [IPAP]. Students must maintain a minimum 3.0 grade point average in each year's grouping of architectural design studio courses (e.g., ARCH 2011, 2012, etc.) in order to maintain eligibility for IPAP. Each sequence of design studio courses must be started in the fall semester.

Electives

International Plan Requirements

Social Science and Humanities Requirements for undergraduate architecture majors may be satisfied, in part, through participation in the International Plan in the Architecture Program [IPAP].

Undergraduate students participating in the International Plan in the Architecture Program [IPAP] must take one (1) three credit hour course in International Relations, one (1) three credit hour course in Global Economics, and one (1) three credit hour course about a specific country or region.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			

ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	

INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		

SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

BACHELOR OF SCIENCE (ARCHITECTURE UNDESIGNATED)
WITH "INTERNATIONAL PLAN" DESIGNATOR #1
2006-2007 DEGREE REQUIREMENTS
Architecture Program

Suggested Schedule- * Senior Year In Paris Program Option *

FIRST YEAR-FALL	**HRS**
COA 1011 FUNDAMENTALS OF DESIGN I	3
COA 1060 INTRODUCTION TO DESIGN	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
COA 1012 FUNDAMENTALS OF DESIGN II	4
ENGL 1102 ENGLISH COMPOSITION II	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
MATH 1502 CALCULUS II	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	**HRS**
ARCH 2011 DESIGN STUDIO I	4
ARCH 2111 HISTORY OF ARCHITECTURE I	3
ARCH 2211 CONSTRUCTION TECHNOLOGY & DESIGN	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
FREN 1001 ELEMENTARY FRENCH I	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
ARCH 2012 DESIGN STUDIO II	4
ARCH 2112 HISTORY OF ARCHITECTURE II	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
FRENCH 1002 ELEMENTARY FRENCH II	3
INTERNATIONAL RELATIONS ELECTIVE (SS)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	**HRS**
ARCH 3011 DESIGN STUDIO III	5
ARCH 3241 FUNDAMENTALS OF STRUCTURES	3
ARCH 4151 HISTORY OF URBAN FORM	3
ARCH 4411 INTRODUCTION TO VISUAL ARTS or ARCH 4420 INTRODUCTION TO DESIGN COMPUTING	3
ARCH 4151 HISTORY OF URBAN FORM	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	**HRS**
ARCH 3012 DESIGN STUDIO IV	5
ARCH 3231 ENVIRONMENTAL SYSTEMS & DESIGN INTEGRATION I	3
ARCH 4801 Special Topics (Paris Prep)	1
GLOBAL ECONOMICS ELECTIVE (SS)	3
FREN 2002 INTERMEDIATE FRENCH II	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-FALL * (ABROAD) *	**HRS**

ARCH 4011 ARCH DESIGN V	5
ARCH 4126 PARIS URBAN HISTORY (COUNTRY OR REGIONAL ELECTIVE) (SS)	3
ARCH 4803 SPECIAL TOPICS (French Conversation I)	3
COLLEGE OF ARCHITECTURE ELECTIVE(S)	3
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING * (ABROAD) *	**HRS**
ARCH 4012 ARCH DESIGN VI (CULMINATING INT'L PLAN COURSE)	5
ARCH 6132 ARCHITECTUAL THEORY & CRITICISM II	3
ARCH 4123 EUROPEAN MODERNISM	3
ARCH 4803 SPECIAL TOPICS (French Conversation II)	3
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 129 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science with a Major in Architecture - International Plan #2

The International Plan in the Architecture Program [IPAP] is a challenging and coherent academic program for undergraduate students who will develop an introductory level of global competence within the study of architecture. The International Plan is an intensive degree-long program designed to prepare students with the ability to:

1. assimilate comfortably in a constantly evolving international context within the profession of architecture
2. value how architecture is practiced in different global contexts
3. function effectively in a multi-national academic and work environment
4. understand the complexity of the global economy and the importance of developing a sensibility to international relations

While many students gain some exposure to these aspects of today's world through the patchwork of traditional international opportunities such as study abroad and international internships, IPAP is designed to develop a deeper level of competency in these areas within the study of architecture.

The requirements of IPAP are:

1. Proficiency in a Foreign Language
2. Globally Focused Courses
3. International Experience
4. Capstone Course

IPAP students can fulfill the International Experience requirement of the International Plan in one of two ways:

1. participation in the College of Architecture Paris Program or
2. participation at a university-approved international program with the approval of the Architecture Program.

For more information on IPAP, visit: **www.coa.gatech.edu/arch/international/**

BACHELOR OF SCIENCE (ARCHITECTURE UNDESIGNATED)
WITH "INTERNATIONAL PLAN" DESIGNATOR #2
2006-2007 DEGREE REQUIREMENTS
Architecture

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
COA 1011 FUNDAMENTALS OF DESIGN I	3
COA 1060 INTRODUCTION TO DESIGN	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
COA 1012 FUNDAMENTALS OF DESIGN II	4
ENGL 1102 ENGLISH COMPOSITION II	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
MATH 1502 CALCULUS II	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
ARCH 2011 DESIGN STUDIO I	4
ARCH 2111 HISTORY OF ARCHITECTURE I	3
ARCH 2211 CONSTRUCTION TECHNOLOGY & DESIGN	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
INTERNATIONAL RELATIONS ELECTIVE (SS)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
ARCH 2012 DESIGN STUDIO II	4
ARCH 2112 HISTORY OF ARCHITECTURE II	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
ARCH 3231 ENVIRONMENTAL SYSTEMS I	3
INTERMEDIATE LANGUAGE I	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
ARCH 3011 DESIGN STUDIO III	5
ARCH 3241 FUNDAMENTALS OF STRUCTURES	3
ARCH 4151 HISTORY OF URBAN FORM	3
INTERMEDIATE LANGUAGE II	3
GLOBAL ECONOMICS ELECTIVE (SS)	3
TOTAL SEMESTER HOURS =	**17**

Summary Term: Internship Abroad

THIRD YEAR-SPRING * (ABROAD) *	HRS
ARCH 3012 DESIGN STUDIO IV	5
COUNTRY or REGIONAL ELECTIVE	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR FALL	HRS
ARCH 4011 ARCH DESIGN V	5

ARCH 4411 INTRODUCTION TO VISUAL ARTS or ARCH 4420 INTRODUCTION TO DESIGN COMPUTING	3
SOCIAL SCIENCE ELECTIVE(S)	3
COLLEGE OF ARCHITECTURE ELECTIVE(S)	3
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR SPRING	**HRS**
ARCH 4012 ARCH DESIGN VI	5
COLLEGE OF ARCHITECTURE ELECTIVE(S)	3
FREE ELECTIVE(S)	2
CULMINATING INT'L PLAN COURSE	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 129 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Grade Requirements

Undergraduate students in the Architecture Program must hold a minimum of a 3.0 GPA at the time of application to be eligible for the International Plan in the Architecture Program [IPAP]. Students must maintain a minimum 3.0 grade point average in each year's grouping of architectural design studio courses (e.g., ARCH 2011, 2012, etc.) in order to maintain eligibility for IPAP. Each sequence of design studio courses must be started in the fall semester.

Electives

International Plan Requirements

Social Science and Humanities Requirements for undergraduate architecture majors may be satisfied, in part, through participation in the International Plan in the Architecture Program [IPAP].

Undergraduate students participating in the International Plan in the Architecture Program [IPAP] must take one (1) three credit hour course in International Relations, one (1) three credit hour course in Global Economics, and one (1) three credit hour course about a specific country or region.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			

ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	

INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		

SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Certificate Programs

The Architecture Program offers three certificate programs. The History of Architecture and Design Certificate recognizes completion of study in the history of architecture and design from a wide range of designated courses. The American Architectural History Certificate recognizes completion of a general survey of American architecture with designated specialized studies. The European Design History Certificate is especially appropriate for students participating in the Paris Study Abroad Program and/or the Italy Summer Program. Certificates will be granted only to students who, in addition to the certificate program requirements, have satisfied requirements for a Georgia Tech degree. Each requires a minimum of twelve credit hours, at least nine of which are at the 3000 level or higher in the designated area. Courses required by a student's program of study may not be credited by that student toward a certificate. Courses counting toward a certificate must be taken on a letter-grade basis, and a *C* or better must be received in each course. Interested students should consult **www.coa.gatech.edu/arch** for more details.

Undergraduate Minor in Architectural History

The Architecture Program offers an undergraduate minor in Architectural History for students in all disciplines at Georgia Tech. The minor requires completion of a two-semester core sequence of ARCH 2111 and 2112 or ARCH 4105 and 4106, in addition to four courses (six courses for Architecture Program students) from an approved list. Interested students should consult **www.coa.gatech.edu/arch**.

Foreign Study Programs

Graduate students in architecture are eligible to participate in two College of Architecture foreign study programs. The first is the Summer Program in Europe, which has a primary focus on modern and contemporary architecture in Paris, Berlin, and Holland. The second is the Summer Study in Italy Program, which focuses on architecture, painting, and sculpture at a variety of sites in Italy. For more information, refer to "Summer Study in Italy."

Study in Paris (Architecture Students Only)

The College of Architecture conducts an annual Study Abroad Program in Paris, France, in association with the Ecole d'Architecture Paris-LaVillette. This program is designed to give qualified senior students in architecture the opportunity to complete all or part of their senior year in residence in Paris as part of a true cultural exchange. The year-long program offers courses taught by Georgia Tech faculty and native French faculty that parallel those courses taught in Atlanta, while offering an international experience. Group field trips to significant French architectural and cultural sites and a jointly taught Franco-American studio broaden and enhance the program's cultural value. Opportunities also exist for individual study and travel. Due to the importance of communication skills in a successful exchange experience, students planning to participate in the Paris Study Abroad Program are required to complete a minimum of one year of college-level French language courses well in advance of their senior year. Further details of the Paris Study Abroad Program are available in the **Undergraduate Architecture Student Handbook**.

Summer Study in Italy (Available to all majors)

The College of Architecture offers a summer semester program intended to provide students the opportunity to study the art and architecture of Italy. The primary academic mission of the program is to expand the opportunities for study of the humanities at Georgia Tech. Headquartered in Rome, Florence, and Venice, the program involves a five-week concentrated and intensive study at the buildings, sites, and museums where works by Michelangelo, Uccello, Leonardo, Brunelleschi, and Caravaggio were originally carried out. In addition to painting, sculpture, and architecture, attention is given to the urban context extending from classical antiquity through the Renaissance and late Baroque periods. On-site studies at the Roman Forum, Pompeii, Herculanium, Ostia, Paestum, Hadrian's Villa, Villa D'Este, Villa Giulia, The Vatican Museum, Borghese Museum, Basilica of St. Peter, and other sites provide students with a deeper understanding and appreciation for the role that Italy has played as the artistic, engineering, and political cornerstone of the western world. Twelve credit hours are offered, six of which satisfy Institute undergraduate humanities requirements. The remaining six hours are taken as free electives and involve faculty-directed independent study of topics developed during the spring term.

Graduate studies in architecture

Graduate studies in architecture at Georgia Tech are comprised of three distinct degree-granting programs: the Master of Architecture I (M.Arch.I), the Master of Architecture II (M.Arch.II), and the Master of Science (M.S.).

The M.Arch.I Program is the professional program in architecture leading to the NAAB-accredited Master of Architecture degree. This program accommodates both a two-year curriculum for those students with a four-year, Pre-Professional degree in architecture and a three-and-a-half-year curriculum for those students without a Pre-Professional degree in architecture.

The M.Arch.II Program is a one-year, post-professional program for those students already holding a professional degree in architecture and wishing to pursue advanced studies in architecture with an emphasis upon design.

The M.S. Program is a nonprofessional, research-oriented degree program that requires a minimum of thirty hours of coursework. The Master of Science is administered through the Ph.D. Program.

Together, these programs are linked through a rich array of studios and courses that engage both theoretical discourse and design speculation about architecture. Topical offerings in the areas of design, theory, history, technology, professional and social practice, culture and behavior, visual arts, and design computing comprise the five fields of study available within the graduate program:

1. The program emphasizes the city and its many manifestations as a context for architectural and urban speculation and explores solutions to urban problems through direct engagement with Atlanta and other environs as working design laboratories.
2. The program promotes the knowledge of architectural and urban history as a basis for theoretical discourse and as an impetus for both critical reflection and design speculation upon the social, economic, and political dimensions of a diverse cultural landscape.
3. The program stresses the central engagement of technology as both philosophical framework and constructional means for the generation of culturally responsible form that accommodates and integrates human, functional, and environmental concerns.
4. The program engages the intertwined contexts of both professional and social practice as fertile realms of inquiry across a wide range of issues - from the legal, financial, and business aspects of professional action to the cultural, behavioral, and experiential dimensions of everyday life.
5. The program cultivates the relationship between architecture and art and encourages the critical exploration of representational means in design ranging from traditional techniques to electronic media for purposes of both speculation about and production of architecture.

BACHELOR OF SCIENCE IN BUILDING CONSTRUCTION
2006-2007 DEGREE REQUIREMENTS
BUILDING CONSTRUCTION
Suggested Schedule

FIRST YEAR-FALL	HRS
COA 1011 FUNDAMENTALS OF DESIGN I	3
COA 1060 INTRODUCTION TO DESIGN	3
COMPUTING REQUIREMENT	3
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
COA 1012 FUNDAMENTALS OF DESIGN II	4
ENGL 1102 ENGLISH COMPOSITION II	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
BC 2600 CONSTRUCTION CONTRACTING	3
BC 2610 CONSTRUCTION TECHNOLOGY I	3
ACCT 2101 ACCOUNTING I	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
BC 2620 CONSTRUCTION TECHNOLOGY II	3
BC 2630 CONSTRUCTION SEMINAR	1
MGT 2200 MANAGEMENT APPLICATIONS OF INFORMATION TECHNOLOGY	3
EAS 2600 EARTH PROCESSES	4
WELLNESS	2
ECON 2100 ECONOMIC ANALYSIS & POLICY PROBLEMS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
BC 3600 CONSTRUCTION COST MANAGEMENT	3
BC 3640 CONSTRUCTION MECHANICS	3
LCC 2000 or 3000 LEVEL HUMANITIES (Communications)	3
MGT 3150 PRINCIPLES OF MANAGEMENT	3
PROFESSIONAL ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-SPRING	HRS
BC 3610 CONSTRUCTION LAW	3
BC 3620 REAL ESTATE & CONSTRUCTION FINANCE & ACCOUNTING	3
BC 4620 STRUCTURAL ANALYSIS	3
MGT 3062 FINANCIAL MANAGEMENT	3
FREE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-FALL	HRS
BC 3630 PROJECT MANAGEMENT I	3

BC 4640 CONSTURCTION MARKETING	3
BC 4680 PROFESSIONAL INTERNSHIP	3
MGT 3102 MANAGING HUMAN RESOURCES ... OR MGT 3660 INTERNATIONAL BUSINESS	3
BC 4670 CONSTRUCTION INDUSTRY ISSUES	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
BC 4600 PROJECT MANAGEMENT II	3
BC 4610 BUILDING ECONOMICS	3
BC 4630 SENIOR CAPSTONE PROJECT	3
BC 4660 ENTREPRENEURSHIP IN CONSTRUCTION	3
PROFESSIONAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 129 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Applications

The deadline for applications is January 15 for the following fall semester. Each applicant must have an outstanding undergraduate record and must submit a portfolio of creative work. The Graduate Record Examination is required for all applicants. A minimum TOEFL score of 600 (paper-based) or 250 (computer-based) is required for all foreign applicants. All applicants should be aware that the Master's Program in Architecture has specific application requirements; therefore, all applicants should request a complete application package and instructions by calling 404.894.4885, faxing to 404.894.0572, or writing to:

Architecture Program Graduate Admissions
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155.

Master of Science with a Major in Architecture

The M.S. is a nonprofessional degree oriented toward advanced practice, scholarship, and research, requiring a minimum of thirty semester hours of advanced study. Upon application, students must designate an area of study. The areas of specialized study include:

1. history and theory of architecture architecture, culture, and behavior
2. urban design architectural technology and building science
3. architectural technology and building science building ecology and emerging technologies
4. architecture, culture, and behavior computation, composition, and construction
5. computing and information technologies in architecture history, theory, and criticism of architecture
6. morphology and design
7. urban design

Specific requirements for the areas of study may be found at the College of Architecture Web site.

For further details on the program, contact:

M.S. Program Advisor
Ph.D. Office, College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155.

Master of Architecture (M.Arch.I)

The M.Arch.I Program, leading to the Master of Architecture as the first professional degree, is oriented toward the professional practice of architecture and is fully accredited by the National Architectural Accrediting Board (NAAB). This degree option provides flexibility for students who have an undergraduate degree with a major in architecture as well as those who have a degree in a field other than architecture. The M.Arch.I Program requires a minimum of 60 credit hours and a maximum of 108 credit hours of study, depending upon the applicant's prior education in architecture and the amount of advanced standing credit granted upon admission to the program.

Normally, a student admitted to the program with maximum advanced standing can expect to complete the program within two academic years of full-time study. A student admitted to the program with no advanced standing can expect the program to require three and one-half academic years of full-time study. Graduates from a four-year undergraduate program in architecture similar to that at Georgia Tech can normally expect to complete the program in two academic years, if they have pursued architecturally related elective coursework during their undergraduate years. In all cases, the Master's Project, or the optional Master's Thesis, is required for award of the Master of Architecture degree. Specific information regarding applications for advanced standing and degree requirements is available from the Architecture Program.

The minimum requirements for the M.Arch.I degree, for a student with a previous degree in architecture, are as follows:

Course	Credit Hours
Architectural Design Studios	18
Professional Core Requirements	12
Master's Project/Thesis Option	9
Approved Professional Electives	21
TOTAL (Minimum)	60

Total Minimum Required Credit Hours for M.Arch.I. Program = 60

The maximum requirements for the M.Arch.I degree, for a student with a previous degree in a discipline other than architecture, are as follows:

Course	Credit Hours
Architectural Design Studios	33
Preparatory Requirements	15
Professional Core Requirements	30
Master's Project/Thesis Option	9
Approved Professional Electives	21
TOTAL (Minimum)	108

Total Maximum Required Credit Hours for M.Arch.I Program = 108

Master of Architecture (M.Arch.II)

The M.Arch.II Program is a postprofessional degree in architecture and has the primary purpose of providing advanced studies in architecture and urban design with an emphasis on the studio. A previous professional degree in architecture is required (B.Arch. or M.Arch.) prior to entry into the program. The minimum length of study is one academic year. The minimum requirements are as follows:

Course	Credit Hours
Core Course	6
Architectural Design Studios	12
Professional Electives	12
TOTAL (Minimum)	30

Total Minimum Required Credit Hours for the M.Arch.II Program = 30

Dual Degree M.ARCH/M.CRP (Urban Design)

The joint Master of Architecture and Master of City and Regional Planning degree seeks to educate those who wish to engage directly in the process of city building. The program is intended to meet the needs of planning agencies, consultants, institutions, and architectural firms for graduates who can deal competently with the design complexities of urban areas. The curriculum is comprised of the core requirements for each of the two professional programs and, in addition, a set of joint requirements that focus upon urban design as a common ground linking the theory and practice of the two disciplines. The joint curriculum builds upon four major bodies of material:

1. Urban history and design theory as a way of understanding the formal and architectural order of the city
2. Economics and development methods as a basis for formulating development projects
3. Process and methods as a means of understanding professional practice and of designing policies and strategies that can be implemented in a private market regulated by public bodies
4. Design studios as a basis for exploring architectural, urban design and development issues utilizing theory, method and professional practice paradigms

Master's Certificate Program in Design Computing

Graduate students in the College of Architecture and the College of Computing may sign up to participate in the Certificate Program in Design Computing. This option allows students to enroll in a program jointly administered by the College of Architecture and the College of Computing, providing studies in computing, computer graphics, Web technologies, and other digital technology areas.

Students eligible for this certificate program are master's students in the Colleges of Architecture or Computing. They are admitted through the regular admissions process, but are designated as being also signed up for this certificate option. Students admitted to the certificate program through the College of Architecture may do so through multiple degree programs:

1. Master of Architecture program: Students in the M.Arch.I program may also enroll in this certificate program as part of their professional electives.
2. Master of Science with a major in architecture in the College of Architecture, Master of Building Construction, and Master of Industrial Design: Students in these programs may enroll in this certificate program if their interests and background correspond to those of the certificate.

The requirements for the certificate program for College of Architecture students are fifteen units of coursework in computing or design. Students taking the certificate program from the College of Architecture are expected to focus on courses in computer science and design computing within the College. The core courses in design computing are those identified as crucial for base knowledge in the field. Students interested in the certificate program should discuss it with their advisor. For further details on the program, contact:

Design Computing Certificate Advisor,
Ph.D. Office, College of Architecture,
Georgia Institute of Technology,
Atlanta, Georgia 30332-0155.

Multidisciplinary Study

Multidisciplinary studies are strongly encouraged in all of the master's programs in architecture. These studies may be part of formal dual degree programs, including architecture and city and regional planning, architecture and civil engineering, architecture and management, etc. Other multidisciplinary studies are possible within the College of Architecture, the Institute, and at Emory University, Georgia State University, and the Atlanta College of Art, among other Atlanta area colleges and universities. Coursework outside the Architecture Program frequently includes city and regional planning, public policy, history, philosophy, real estate development, engineering, and studio art.

Doctor of Philosophy with a Major in Architecture

The program leading to the Doctor of Philosophy degree in the College of Architecture has been developed to enable students of exceptional ability to undertake advanced study and original research in the fields of study within the College of Architecture. Currently the program includes several fields of study:

1. City and Regional Planning
2. Architecture, Culture, and Behavior
3. Architectural History, Theory, and Criticism
4. Building Construction
5. Building Technology
6. Design Computing
7. Design Cognition
8. Spatial and Architectural Morphology

Several areas of study within city and regional planning are available for dissertation research: environmental planning, economic development, transportation planning, land and housing economics, urban and regional development, information systems, and land use planning.

The field of Architecture, Culture, and Behavior explores how individual, organizational and cultural behavior, performance and experience relate to the design of buildings and urban space. Current studies explore the following topics, among others: healthcare facilities that support higher quality care; workplaces that support new models of work; building and urban designs that promote health and active living; public buildings that promote functional and symbolic needs; wayfinding and environmental cognition and perception, and others.

The Architectural History, Theory, and Criticism (HTC) field is oriented towards historical and critical inquiry of architectural practice, thought, and criticism. Studies on topics related to interpretive methodology such as representation, meaning, and style are a distinctive focus of the HTC program at Georgia Tech.

Studies in Building Technology are concerned with the lifecycle performance of technical building systems, including the development and application of advanced knowledge in design processes, evaluation methods, intelligent and adaptive technologies, and indoor environmental factors.

Building Construction has several areas of research including: construction management, risk management and decision support systems, integrated construction project delivery systems (design-build, construction management, negotiated team, cost-plus with gmp, bridging, and others); integrated facility management; indoor environment; international construction; construction robotics and automation; e-business in construction; life cycle cost analysis.

Design Computing focuses on the development of information technologies in support of design and construction. Current areas of research include building repositories, electronic design environments, human computer interfaces, building product models, formal approaches to composition, smart buildings and objects, direct fabrication of designs (building CAD/CAM), and parametric modeling.

Design Cognition is concerned with the reasoning, processes, models, and methods about how design skills, information, behaviors and expertise are learned, applied and represented. Research areas

include sketch understanding, visual and spatial reasoning, mental imaging, cognitive process of problem solving, design moves and creativity.

Spatial and Architectural Morphology is concerned with the principles that govern layouts, their meaning, functions, and social implications at urban and building scales. It includes analytical studies of spatial form.

For further details on the program, contact:

Ph.D. Program Director
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155
Phone: 404.894.3476
Web site: **www.coa.gatech.edu/phd/**

General Information

The construction industry is among the largest in the United States, employing more than 8 million people and contributing eight percent of the Untied States gross national product. The Building Construction (BC) Program at Georgia Tech is one of the leading programs in building construction in the nation. The program's mission is to prepare students to serve in the global construction industry as professional managers and leaders.

Employment prospects for BC students are excellent. Students are recruited by general contractors, residential home builders, project management firms, cost value and consulting firms, real estate and property development companies, building material suppliers, and local/state/federal government agencies. The average starting salary for the BC graduate is among the highest on the Georgia Tech campus and ranks at the top of the industry. The degree granted is a Bachelor of Science in Building Construction.

Students in the BC Program learn the basic principles and practices of construction management, real estate development, science, and technology. BC students are educated on how to manage the functions and processes of every aspect of the construction industry. The business climate in Atlanta is vibrant and provides an excellent laboratory opportunity for students to observe various construction sites and activities. The construction companies in the Atlanta area also provide many internships and part-time jobs to students during their study in the BC Program.

Telephone: 404.894.4875

Accreditation

The Building Construction Program is accredited by the American Council for Construction Education (ACCE). This accreditation ensures a high level of quality in both the curriculum and overall educational experience in the Building Construction Program. Additionally, it helps the Program remain a cutting edge and innovative construction management education program. ACCE is recognized by the Council for Higher Education Accreditation as the only accrediting agency for baccalaureate and associate degree programs in construction education.

The Building Construction Program has received international recognition through accreditation by the Royal Institute of Chartered Surveyors (RICS). The RICS' designation provides accredited programs' faculty and student members access to online forums, professional development opportunities and the world's most extensive international library of research and policy analysis on land, property, economics and environmental issues. Additionally, with RICS accreditation, program alumni may be eligible for an expedited route to RICS membership.

The Master of Science in Building Construction and Integrated Facility Management is recognized by the International Facility Management Association (IFMA), and the Design Build Institute of America (DBIA).

Common First Year

All freshmen enter as undesignated majors within the College of Architecture. All students, including transfer students, must complete a three-course sequence

1. COA 1060 – Introduction to Design and the Built Environment
2. COA 1011 – Fundamentals of Design and the Built Environment I, and
3. COA 1012 – Fundamentals of Design and the Built Environment II

in addition to other courses scheduled for the freshman year or appropriate courses for transfer students. During the spring semester of the first year, students enrolled in COA 1012 will prepare a portfolio and application to one of the three undergraduate programs within the College of Architecture: Architecture, Building Construction, or Industrial Design. Admission to one of the three programs will be determined by the student's performance at Georgia Tech, portfolio review, program application information, and other academic information that was used to admit the student to Georgia Tech. Admission to a specific program may be limited by available space and resources needed to accommodate a maximum number of majors in the second-year program courses. Students will be notified concerning their acceptance to a specific program before the end of the spring semester.

Bachelor of Science in Building Construction

The Georgia Tech Building Construction (BC) Program is a management-based course of study that prepares students for leadership roles in the construction industry. The curriculum is designed to teach students the basic principles and practices of construction management, real estate development, science, and technology. Students are taught to manage the functions and processes of every aspect of the construction industry. The curriculum provides a well-rounded course of study conducted by award-winning faculty and staff and offers hands-on experience and guidance by industry professionals.

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Free Electives

Six semester hours of free electives are required. Military training is an option allowed by the Institute. If basic ROTC is elected, four credit hours of free electives may be used.

The College of Architecture will accept only the two required hours of physical education (HP 1040, 1062, 1063, or 1064) toward meeting degree requirements.

Professional Electives

Six semester hours of professional electives are required, and these courses should be selected from the list of Recommended Professional Electives provided by the BC Program. The Building Construction professional electives provide students the opportunity to pursue specialized study and develop skills in construction management, construction development, and construction science. Construction management prepares students for managerial systems and practices utilized by constructors to manage the planning and delivery processes of buildings in the contemporary practice of construction.

Managerial areas of study range from internal management systems used by general contractors and builders in office operations and practice to management and systems controls employed by construction managers in the planning, design, and construction phases of complex building projects. Construction development introduces students to entrepreneurial theories and practices used in the development of construction projects ranging from single facilities to multiple building complexes. It focuses on urban economic theories, planning legislation and regulation, and urban development methods applicable in land and real estate investment. Emphasis is on the development and marketing theories of building projects in the context of contemporary planning and urban development issues. Construction science is an analytically and engineering-oriented study designed to encourage students to challenge current methods of building construction and delivery techniques and to seek innovative solutions through study, research, and technical inquiry. Emphasis is on the means and methods of constructing buildings, the intrinsic nature and use of construction materials, the anatomy of building systems and components, and prefabricated building systems and components development and production concepts.

Humanities Electives

Twelve credit hours are required by the Institute. The required English sequence, ENGL 1101-2, and 2000- or 3000-level LCC Communication Intensive courses will satisfy nine hours. The remaining three hours are selected by the student from the approved Catalog list of **humanities courses**.

Social Sciences Electives

Twelve credit hours of social sciences are required by the Institute. The required three credit hour U.S./ Georgia **history and constitution** legislative course (HIST 2111, 2112; POL 1101; INTA 1200; or PUBP 3000) and ECON 2100 will satisfy six hours. The remaining six hours are selected by the student from the approved Catalog list of **social sciences courses**.

M.S. in Building Construction and Integrated Facility Management

The master's degree programs in Building Construction focus on management-based education for industry professionals seeking executive leadership positions in the industry. Our graduate training offers a holistic approach to business processes, integrating coursework, seminars, and hands-on learning to equip today's industry professionals with the resources they need to excel in their professional careers. The graduate program consists of two tracks:

1. Integrated Facility Management, and
2. Integrated Project Delivery Systems,

which prepare students for innovative leadership positions within the industry. Students can complete either a thesis or non-thesis option for the degree.

Students in the program come from a variety of backgrounds, often with experience in facility management, construction, architecture, engineering, city planning, management, or business. The program is tailored to meet the needs of professionals by offering evening classes, giving students the flexibility of continuing to work while taking courses.

The Building Construction Integrated Facility Management track:

The focus of this graduate study is integrated facility and property management. The program offers a holistic understanding of this complex field and its theoretical concepts, and it focuses on developing and fine-tuning the management skills necessary for success in the facility and property management industry. Courses explore the many facets of integrated facility management including asset management, project management, facility operations and maintenance, energy management, workplace design and consulting, facility technology integration, design and construction, and real estate development.

The minimum requirements for a graduate degree in BC are as follows:

Thesis Option:

The curriculum for graduate study with the Thesis Option consists of the following thirty-six semester hours:

Courses	Hours
Core courses	18
Approved Professional Electives	6
Master's Thesis	12
Total	36

Non-Thesis Option:

The curriculum for graduate study with the Non-Thesis Option substitutes twelve semester hours of coursework for the thesis and consists of the following thirty-six semester hours:

Courses	Hours
Core courses	18

Approved Professional Electives	18
Total	36

The Graduate Record Exam (GRE) or Graduate Management Admission Test (GMAT) is required for all students. A minimum TOEFL score of 550 (paper-based) or 213 (computer-based) is required of all international applicants. The application can be completed online at www.grad. gatech.edu/admissions.

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The Building Construction Integrated Project Delivery Systems Track

The graduate study, focused on integrated project delivery systems, educates students to understand, analyze, select, and manage the most appropriate and effective project delivery systems for constructing a facility. The curriculum emphasizes integrated problem solving through state-of-the-art technical and management techniques. A variety of project delivery systems that can be used independently or integrated are examined. The delivery methods explored include the design-build system, the construction management/agent method, the hybrid bridging and partnering system, the negotiated select team method, as well as the traditional delivery method.

The minimum requirements for a graduate degree in BC are as follows:

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Doctor of Philosophy with a Major in Architecture

The program leading to the Doctor of Philosophy degree in the College of Architecture has been developed to enable students of exceptional ability to undertake advanced study and original research in the fields of study within the College of Architecture. Currently the program includes several fields of study:

1. City and Regional Planning
2. Architecture, Culture, and Behavior
3. Architectural History, Theory, and Criticism
4. Building Construction
5. Building Technology
6. Design Computing
7. Design Cognition
8. Spatial and Architectural Morphology

Several areas of study within city and regional planning are available for dissertation research: environmental planning, economic development, transportation planning, land and housing economics, urban and regional development, information systems, and land use planning.

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Spatial and Architectural Morphology is concerned with the principles that govern layouts, their meaning, functions, and social implications at urban and building scales. It includes analytical studies of spatial form.

For further details on the program, contact:

Ph.D. Program Director
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155
Phone: 404.894.3476
Web site: **www.coa.gatech.edu/phd/**

General Information

Founded in 1952, Georgia Tech's planning program is one of the oldest professional planning programs in the United States, with nearly 1,000 alumni. Graduates are employed in both the public and private sectors, at all levels of government, by banks, real estate development companies, public utilities, and private corporations. The program is fully accredited by the Planning Accreditation Board; it is the only accredited planning program in Georgia.

The City and Regional Planning Program offers coursework in seven major areas of urban and regional planning: land development, environmental planning, transportation, economic development, geographic information systems, urban design, and land use policy. Several types of degree programs are available: the professional Master of City and Regional Planning; dual degrees with civil and environmental engineering, architecture, and public policy; and a five-year B.S./ M.C.R.P. degree; and the Master of City and Regional Planning concurrent with the Juris Doctor (Law) degree at Georgia State University. Descriptions of each follow.

Telephone: 404.894.2352
Web site: **www.coa.gatech.edu/crp/**

Accreditation

The Master of City and Regional Planning (MCRP) program is fully accredited by the Planning Accreditation Board, a joint accrediting body of the American Institute of Certified Planners, the American Planning Association, and the Association of Collegiate Schools of Planning.

The M.CRP degree is the recognized basis for a career as a professional planner.

Certificate in Land Development

The City and Regional Planning Program offers a certificate in land development for undergraduate and graduate students in good standing at Georgia Tech. It is designed to give you specialized education in land development. Students tell us that the certificates make them more competitive in securing employment and in advancing to graduate education.

Certificate Program in Remote Sensing

Students completing the master's degree or doctoral degree requirements of the School may earn a Remote Sensing Certificate. Additional details can be found in this catalog under **www.catalog.gatech.edu/colleges/cos/eas/grad/certificates.php**

Master of City and Regional Planning

This program educates the student whose career goal is to be a professional planner. The program requires fifty-five total credit units for graduation. Approximately half of the program consists of required courses, called the core. The core is composed of three substantive streams: planning theory and process, including planning law, institutional analysis, plan implementation, and history and theory of planning; planning methods, including data analysis, computer applications, descriptive and inferential statistics, microeconomic analytic techniques, and planning information systems; and urban and regional theory, which explores the structure and function of urban systems. The core is largely contained within the student's first two semesters. Students must choose one of the seven areas of concentration described above. Each specialization consists of at least four courses.

The two-year curriculum requires, for most students, four semesters of coursework, including a four-credit hour applied research paper. Some students choose to write a ten-credit hour thesis. An approved internship is required for those students with no previous planning work experience.

The Graduate Record Examination is required for all applicants to the Master of City and Regional Planning Program. A minimum TOEFL score of 600 is required for all international applicants. Since the course material is sequential in nature, fall matriculation is strongly recommended. Applications must be completed before March 1 to ensure consideration for financial aid.

For more information about the M.C.R.P. program, contact:

Academic Advisor
City and Regional Planning Program
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155.

B.S. / M.CRP : Degree

Upper-division undergraduates may work simultaneously on their bachelor of science degree and a master of City and Regional Planning (M.CRP) in planning. By enrolling in all required planning classes as electives for the baccalaureate degree, students may obtain both an undergraduate degree as well as complete coursework toward a graduate degree. Students should request and receive permission from the director of the City and Regional Planning Program to begin their program of study in planning no later than fall of their junior year. Students with cumulative GPAs above 3.0 will be considered. In some cases, students can complete the two-year master's program in one year beyond the usual bachelor's degree. The key is to carefully schedule the last year of the undergraduate program. This program may be particularly appropriate for architecture, management, economics, civil and environmental engineering, and earth and atmospheric sciences majors.

The Dual Degree

The City and Regional Planning Program maintains dual degree programs with several other academic units: urban design in the College of Architecture; transportation, environmental engineering, and water resources in the School of Civil and Environmental Engineering; public policy with the School of Public Policy; and law with the Georgia State College of Law. The concept behind these dual degree programs is that a student can structure his or her program so that required courses taken in one program can serve as elective credit in the other, thus allowing the student to receive two degrees in less time than the two would take to complete if pursued separately.

Candidates seeking the dual degree should state their intentions and be officially admitted into City and Regional Planning and simultaneously accepted internally by the second program. In addition to the dual degree programs, the business administration program in real estate at Georgia State University offers a certificate in real estate that some planning students elect to pursue; likewise, the history program at Georgia State University offers a heritage preservation certificate.

Dual Degree M.S.Env.E./M.C.R.P. (Environmental Engineering)

This dual degree program with Environmental Engineering (M.S.Env.E. / M.C.R.P.) provides students the scientific bases, the analytic techniques, and the planning principles to be effective environmental professionals. Candidates for this program should have a background in engineering or the physical sciences.

Dual Degree M.CRP and GSU Juris Doctor degree

This dual Georgia Tech Master of City & Regional Planning and Georgia State University Juris Doctor degree program will 1) broaden the intellectual horizons of both Georgia State University College of Law and the Georgia Institute of Technology College of Architecture by facilitating interdisciplinary study, 2) support the interests of students who wish to pursue study in the fields of both law and urban planning, 3) provide an educational opportunity that reflects the fact that land management law and city and regional planning have become increasingly integrated and interdisciplinary in nature and that training for today's land use law or planning profession requires expertise in both disciplines.

Dual Degree M.CRP / Master of Science (Public Policy)

The objective of the dual degree program in City and Regional Planning and Public Policy is to provide an education and research experience to those students wishing to work in urban policy analysis at the national, state and local level. Graduates will be more likely to work in political rather than planning settings and be focused more on policy research and analysis rather than on land planning and design. The dual degree is an efficient step towards Ph.D. programs in either City and Regional Planning or Public Policy with an emphasis on Urban Policy. The dual degree student receives both degrees in less time than it would take to receive the two degrees sequentially.

Dual Degree M.CRP/CEE (Transportation Engineering)

This dual degree program is designed to meet the need of planning agencies and transportation departments for people who combine competence in city and regional planning and transportation engineering. Candidates for this program are limited to students who hold a bachelor's degree in engineering, mathematics, or a physical science. The program consists of coursework in city and regional planning, transportation engineering, mathematical and experimental statistics, principles of digital computers and operations research. It is administered jointly by the Graduate City and Regional Planning Program and the School of Civil and Environmental Engineering.

Dual Degree M.ARCH/M.CRP (Urban Design)

The joint Master of Architecture and Master of City and Regional Planning degree seeks to educate those who wish to engage directly in the process of city building. The program is intended to meet the needs of planning agencies, consultants, institutions, and architectural firms for graduates who can deal competently with the design complexities of urban areas. The curriculum is comprised of the core requirements for each of the two professional programs and, in addition, a set of joint requirements that focus upon urban design as a common ground linking the theory and practice of the two disciplines. The joint curriculum builds upon four major bodies of material:

1. Urban history and design theory as a way of understanding the formal and architectural order of the city
2. Economics and development methods as a basis for formulating development projects
3. Process and methods as a means of understanding professional practice and of designing policies and strategies that can be implemented in a private market regulated by public bodies
4. Design studios as a basis for exploring architectural, urban design and development issues utilizing theory, method and professional practice paradigms

Dual Degree M.S.C.E./M.C.R.P. (Water Resources)

This dual degree program with civil engineering (M.S.C.E./M.C.R.P.) addresses a growing need for water resources professionals with both technical and planning expertise. Candidates for this program should have a background in engineering or the physical sciences.

Doctor of Philosophy with a Major in Architecture

The program leading to the Doctor of Philosophy degree in the College of Architecture has been developed to enable students of exceptional ability to undertake advanced study and original research in the fields of study within the College of Architecture. Currently the program includes several fields of study:

1. City and Regional Planning
2. Architecture, Culture, and Behavior
3. Architectural History, Theory, and Criticism
4. Building Construction
5. Building Technology
6. Design Computing
7. Design Cognition
8. Spatial and Architectural Morphology

Several areas of study within city and regional planning are available for dissertation research: environmental planning, economic development, transportation planning, land and housing economics, urban and regional development, information systems, and land use planning.

The field of Architecture, Culture, and Behavior explores how individual, organizational and cultural behavior, performance and experience relate to the design of buildings and urban space. Current studies explore the following topics, among others: healthcare facilities that support higher quality care; workplaces that support new models of work; building and urban designs that promote health and active living; public buildings that promote functional and symbolic needs; wayfinding and environmental cognition and perception, and others.

The Architectural History, Theory, and Criticism (HTC) field is oriented towards historical and critical inquiry of architectural practice, thought, and criticism. Studies on topics related to interpretive methodology such as representation, meaning, and style are a distinctive focus of the HTC program at Georgia Tech.

Studies in Building Technology are concerned with the lifecycle performance of technical building systems, including the development and application of advanced knowledge in design processes, evaluation methods, intelligent and adaptive technologies, and indoor environmental factors.

Building Construction has several areas of research including: construction management, risk management and decision support systems, integrated construction project delivery systems (design-build, construction management, negotiated team, cost-plus with gmp, bridging, and others); integrated facility management; indoor environment; international construction; construction robotics and automation; e-business in construction; life cycle cost analysis.

Design Computing focuses on the development of information technologies in support of design and construction. Current areas of research include building repositories, electronic design environments, human computer interfaces, building product models, formal approaches to composition, smart buildings and objects, direct fabrication of designs (building CAD/CAM), and parametric modeling.

Design Cognition is concerned with the reasoning, processes, models, and methods about how design skills, information, behaviors and expertise are learned, applied and represented. Research areas

include sketch understanding, visual and spatial reasoning, mental imaging, cognitive process of problem solving, design moves and creativity.

Spatial and Architectural Morphology is concerned with the principles that govern layouts, their meaning, functions, and social implications at urban and building scales. It includes analytical studies of spatial form.

For further details on the program, contact:

Ph.D. Program Director
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155
Phone: 404.894.3476
Web site: **www.coa.gatech.edu/phd/**

General Information

Industrial design is the professional service of creating and developing concepts and specifications that optimize the function, value, and appearance of products and systems for the mutual benefit of both user and manufacturer. An industrial designer's responsibilities include fitting the artifact, system, or service to the person. This includes developing appropriate aesthetics and ergonomics, a practical concern for technical processes, and requirements for manufacture; marketing opportunities and economic constraints; and distribution, sales, and servicing processes.

The industrial designer's work touches all of our lives in the form of home furnishings, transportation, appliances, recreational equipment, and a myriad of other consumer and industrial products and services. While giving form to the efforts of industry, the designer is at the same time a consumer advocate, providing the humanizing link between technology and the consumer.

The Georgia Tech program offers a well-rounded course of study with early emphasis on basic design and design skills. Design projects stress realistic design situations. The program encourages students to develop a diverse background in order to expand individual talents and respond to changing opportunities in the field. Most faculty members are practicing designers with extensive experience in the field.

All work executed in the College becomes the property of the College and will be retained or returned at the discretion of the faculty. The faculty also reserves the right to refuse credit for any project executed outside the precincts of the College or otherwise executed without proper coordination with the instructor.

Telephone: 404.894.4874
Web site: **www.coa.gatech.edu/id/**

Accreditation

The Bachelor of Science in Industrial Design has been accredited by the National Association of Schools in Art and Design (NASAD) and is recognized by the Industrial Designers Society of America.

Common First Year

All freshmen enter as undesignated majors within the College of Architecture. All students, including transfer students, must complete a three-course sequence

1. COA 1060 – Introduction to Design and the Built Environment
2. COA 1011 – Fundamentals of Design and the Built Environment I, and
3. COA 1012 – Fundamentals of Design and the Built Environment II

in addition to other courses scheduled for the freshman year or appropriate courses for transfer students. During the spring semester of the first year, students enrolled in COA 1012 will prepare a portfolio and application to one of the three undergraduate programs within the College of Architecture: Architecture, Building Construction, or Industrial Design. Admission to one of the three programs will be determined by the student's performance at Georgia Tech, portfolio review, program application information, and other academic information that was used to admit the student to Georgia Tech. Admission to a specific program may be limited by available space and resources needed to accommodate a maximum number of majors in the second-year program courses. Students will be notified concerning their acceptance to a specific program before the end of the spring semester.

Bachelor of Science Industrial Design

The program offers a Bachelor of Science degree at the end of four years. An additional two years of study leads to the professional Master of Science degree. The undergraduate curriculum focuses on core courses leading to a comprehensive general professional education. The Master of Science graduate program study option focuses more on individual programs of study with a curriculum that completes the professional education and serves advanced research and scholarship.

BACHELOR OF SCIENCE IN INDUSTRIAL DESIGN
2006-2007 DEGREE REQUIREMENTS
INDUSTRIAL DESIGN
Suggested Schedule

FIRST YEAR-FALL	HRS
COA 1011 FUNDAMENTALS OF DESIGN I	3
COA 1060 INTRODUCTION TO DESIGN	3
COMPUTING REQUIREMENT	3
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
COA 1012 FUNDAMENTALS OF DESIGN II	4
ENGL 1102 ENGLISH COMPOSITION II	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
WELLNESS	2
MATH 1502 CALCULUS II	4
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
ID 2011 INTRODUCTORY DESIGN I	4
ID 3103 INDUSTRIAL DESIGN COMPUTING I	3
COA 2241 ART HISTORY I	3
SOCIAL SCIENCE ELECTIVE(S)	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
ID 2012 INTRODUCTORY DESIGN II	4
ID 2202 HISTORY OF MODERN INDUSTRIAL DESIGN	3
COA 2242 ART HISTORY II	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
ID 3104 INDUSTRIAL DESIGN COMPUTING II	3
TOTAL SEMESTER HOURS =	**19**

THIRD YEAR-FALL	HRS
ID 3011 INTERMEDIATE DESIGN I	5
ID 3301 MATERIALS I: RENEWABLES	3
ID 4202 PROFESSIONAL PRACTICE	3
INDUSTRIAL DESIGN ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
ID 3012 INTERMEDIATE DESIGN II	5
ID 3302 MATERIALS & PROCESSES II: NONRENEWABLES	3
ID 4201 DESIGN / RESEARCH METHODS	3
INDUSTRIAL DESIGN ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-FALL	HRS
ID 4011 ADVANCED DESIGN I	5
SOCIAL SCIENCE ELECTIVE(S)	3
COA HISTORY ELECTIVE(S)	3

FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
ID 4012 ADVANCED DESIGN II	5
IDUSTRIAL DESIGN ELECTIVE(S)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 129 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Grade Requirements

All industrial design required studio courses must be completed with a *C* or higher. A student may not enter a more advanced studio design course until this requirement is met; students with such academic deficiencies may be required to delay their studies for one year. Studio design courses must be taken in sequence beginning fall semester. Both transfer students and students already enrolled at Georgia Tech must have a cumulative minimum grade point average of 2.5. Students interested in transferring from another school should contact the Georgia Tech Office of Undergraduate Admission. A maximum of nine credit hours may be taken on a pass/fail basis. Only courses taken as free electives in the undergraduate curriculum must be taken for pass/fail credit. See "Information for Undergraduate Students" for Institute regulations regarding pass/fail courses.

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities Electives

Twelve credit hours of humanities courses are required. The required ENGL 1101, 1102, and COA 2241 and 2242 satisfy this requirement. ID 2202 does not count toward this requirement for industrial design majors.

Social Sciences Electives

Twelve credit hours of approved social sciences courses are required. To satisfy the state requirements regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. Any other nine credit hours of Institute-approved social science courses will satisfy the remainder of this requirement.

General and Industrial Design Electives

Fourteen general elective hours are required. The general elective hours may include six hours of credit for ROTC courses. Those enrolling in ROTC must schedule appropriate ROTC courses in the freshman and sophomore years.

Students are encouraged to use general electives to fulfill one of several track elective options. Contact the Industrial Design program office for approved tracks.

Only nine hours of electives taken on a pass/fail basis may be applied toward fulfilling requirements for the B.S.I.D. degree. Nine industrial design elective hours are required.

Master of Industrial Design (M.I.D.)

An overarching objective of the M.I.D. is to provide an advanced and rigorous education that promotes an understanding of design as a process of identifying, analyzing, and solving design problems of human interface with our physical environment. The degree program will combine core coursework developed for the M.I.D. with coursework from across Georgia Tech in the areas of architecture, engineering, humanities, and social sciences. Students will develop diverse skill sets that provide the graduate-level industrial designer with the knowledge necessary to engage in complex problem solving for a variety of products and production processes with a human-centered focus.

Research emphasis

The M.I.D. graduate program has three core areas of emphasis:

1. **Product development:** An emphasis combining expertise of the faculty in research and development with the technologies of advanced computing and rapid prototyping. Students in this area of study work closely with campus centers such as Advanced Wood Products Lab; Center for Assistive Technology and Environmental Access (CATEA); Graphics, Visualization, and Usability Center (GVU); Georgia Tech Research Institute; and Rapid Prototyping and Materials Institute.
2. **Interface design:** An emphasis in linking the development of graphical user interfaces with the human factors and ergonomics of computer use, software, Internet-related resources, and media development. Students studying in this area work closely with centers such as CATEA, GVU, and Literature, Communication, and Culture labs.
3. **Human-centered design:** An area of emphasis utilizing the expertise in assistive technology and environmental accessibility found in the ID program, College of Architecture, CATEA, and GTRI.

Minor Requirements for the Degree

Students who have an undergraduate degree in industrial design from an ID program similar to Georgia Tech's can complete a two-year program consisting of forty-eight graduate credits.

Students who do not have an undergraduate degree in industrial design will need to take an additional thirty-six undergraduate industrial design credits. Students with a non-industrial design education will be admitted conditionally and will be required to successfully complete required undergraduate classes. All graduate students will be reviewed each year for satisfactory progress.

Required Courses for the M.I.D. Degree with ID Undergraduate Degree

Course Number	Course Name	Hours
ID 6100	GRADUATE STUDIES IN ID	3
ID 6101	HUMAN-CENTERED DESIGN	3
ID 6200	GRADUATE STUDIO I	6
ID 6201	GRADUATE STUDIO II	6
GRADUATE ELECTIVES (ALL ELECTIVES MUST BE APPROVED BY THE ID PGM)		18
ID 7000 or ID 6400 THESIS OR NON-THESIS		12

TOTAL MINIMUM REQUIRED CREDIT HOURS	48

Students with a previous degree other than industrial design will be required to complete a minimum of one year of undergraduate industrial design studios, History of Industrial Design, Industrial Design Computing I and II, and Professional ID Practices. These classes are minimum requirements for students with a previous degree other than industrial design before proceeding into the graduate-level studios and coursework.

Doctor of Philosophy with a Major in Architecture

The program leading to the Doctor of Philosophy degree in the College of Architecture has been developed to enable students of exceptional ability to undertake advanced study and original research in the fields of study within the College of Architecture. Currently the program includes several fields of study:

1. City and Regional Planning
2. Architecture, Culture, and Behavior
3. Architectural History, Theory, and Criticism
4. Building Construction
5. Building Technology
6. Design Computing
7. Design Cognition
8. Spatial and Architectural Morphology

Several areas of study within city and regional planning are available for dissertation research: environmental planning, economic development, transportation planning, land and housing economics, urban and regional development, information systems, and land use planning.

The field of Architecture, Culture, and Behavior explores how individual, organizational and cultural behavior, performance and experience relate to the design of buildings and urban space. Current studies explore the following topics, among others: healthcare facilities that support higher quality care; workplaces that support new models of work; building and urban designs that promote health and active living; public buildings that promote functional and symbolic needs; wayfinding and environmental cognition and perception, and others.

The Architectural History, Theory, and Criticism (HTC) field is oriented towards historical and critical inquiry of architectural practice, thought, and criticism. Studies on topics related to interpretive methodology such as representation, meaning, and style are a distinctive focus of the HTC program at Georgia Tech.

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Building Construction has several areas of research including: construction management, risk management and decision support systems, integrated construction project delivery systems (design-build, construction management, negotiated team, cost-plus with gmp, bridging, and others); integrated facility management; indoor environment; international construction; construction robotics and automation; e-business in construction; life cycle cost analysis.

Design Computing focuses on the development of information technologies in support of design and construction. Current areas of research include building repositories, electronic design environments, human computer interfaces, building product models, formal approaches to composition, smart buildings and objects, direct fabrication of designs (building CAD/CAM), and parametric modeling.

Design Cognition is concerned with the reasoning, processes, models, and methods about how design skills, information, behaviors and expertise are learned, applied and represented. Research areas

include sketch understanding, visual and spatial reasoning, mental imaging, cognitive process of problem solving, design moves and creativity.

Spatial and Architectural Morphology is concerned with the principles that govern layouts, their meaning, functions, and social implications at urban and building scales. It includes analytical studies of spatial form.

For further details on the program, contact:

Ph.D. Program Director
College of Architecture
Georgia Institute of Technology
Atlanta, Georgia 30332-0155
Phone: 404.894.3476
Web site: **www.coa.gatech.edu/phd/**

Master's Certificate Program in Design Computing

Graduate students in the College of Architecture and the College of Computing may sign up to participate in the Certificate Program in Design Computing. This option allows students to enroll in a program jointly administered by the College of Architecture and the College of Computing, providing studies in computing, computer graphics, Web technologies, and other digital technology areas.

Students eligible for this certificate program are master's students in the Colleges of Architecture or Computing. They are admitted through the regular admissions process, but are designated as being also signed up for this certificate option. Students admitted to the certificate program through the College of Architecture may do so through multiple degree programs:

1. Master of Architecture program: Students in the M.Arch.I program may also enroll in this certificate program as part of their professional electives.
2. Master of Science with a major in architecture in the College of Architecture, Master of Building Construction, and Master of Industrial Design: Students in these programs may enroll in this certificate program if their interests and background correspond to those of the certificate.

The requirements for the certificate program for College of Architecture students are fifteen units of coursework in computing or design. Students taking the certificate program from the College of Architecture are expected to focus on courses in computer science and design computing within the College. The core courses in design computing are those identified as crucial for base knowledge in the field. Students interested in the certificate program should discuss it with their advisor. For further details on the program, contact:

Design Computing Certificate Advisor,
Ph.D. Office, College of Architecture,
Georgia Institute of Technology,
Atlanta, Georgia 30332-0155.

Department of Music

Location: Couch Building
Telephone: 404.894.3193
Fax: 404.894.9952
Web site: **www.music.gatech.edu**

General Information

Among the oldest traditions of the Institute, the Music Department provides a creative cultural outlet for Tech's many musically minded students. Whether a student's interest is casual or intense, the music faculty is dedicated to providing a quality experience in the theory, history, and practice of music. Students may elect to participate in various classroom courses, and in vocal or instrumental ensembles, enjoying a sense of community, pride, and accomplishment. Institute research also reveals that student retention is 4.5 times greater for students involved in music.

Music activities at Georgia Tech are centered around its major performing groups: Marching Band, Concert Band, Chamber Choir, Chorale, Jazz Ensemble, Symphonic Band, and Orchestra. The Music Department is cognizant of the desires of students who wish to enrich their lives through music, and excellence in the program is clearly demonstrated in the level of student performance and the vitality and rapid growth of the program. Students involved in the program represent every major of the Institute on both undergraduate and graduate levels.

Students earn free elective or humanities credit for all ensembles and classroom courses. Upon completion of thirteen credit hours of coursework within a prescribed curriculum, a Certificate in Music may be awarded. A Minor in Music is also offered, requiring nineteen credit hours, with at least six credit hours at the upper-division level (3000-4000). The minor can be completed in any one of the following areas: woodwinds, brass, strings, percussion, vocal, and jazz. Specific offerings may be checked each semester at **https://oscar.gatech.edu**. The Department plans events with an awareness of the demands placed upon Tech students so that a great amount of musical experience is concentrated into a limited time. Most ensemble classes schedule meetings and rehearsal times during the late afternoon and early evening hours. The Department enjoys a tradition of commitment to campus and community service that contributes greatly to the quality of life at Georgia Tech.

Faculty

Donny Allen
Assistant Director of Bands

Parag Chordia, Ph.D.
Music Technology

Frank Clark, Ph.D.
Director and Professor of Music

Jason Freeman, D.M.A.
Composition and Music Technology

Ron Mendola
Director of Jazz Ensemble and Director of Orchestra

Christopher Moore
Associate Director of Bands and Director of Athletic Bands

Andrea Strauss, Ph.D.
Director of Bands and Director of Symphonic Band

Jerry Ulrich, Ph.D.
Director of Choral Activities

Gil Weinberg, Ph.D.
Director of Music Technology

Music Minor Requirement

A Music Minor can be earned by Georgia Tech students upon completion of a minimum of eighteen hours of study (twelve hours must be at the 3000 level or higher) in music as approved by the Music Department program coordinator. Students following the guidelines of the Minor Program will be exposed to musical study at considerable depth in areas that include theory, history, and an introduction to the study of music technology. An additional requirement component of the Minor Program involves sustained performance in one of Georgia Tech's instrumental or vocal ensembles chosen from the list below. All courses must be taken on a letter-grade basis with a *C* or better, and must be completed with an overall GPA of 2.0. All other requirements outlined in the Georgia Tech Policy for Undergraduate Minors must be met. Auditions for acceptance into the Music Minor are required and occur each spring.

Required Courses:

1. Music History - (4 semester hours)
2. Music Theory - (4 semester hours)
3. Music Technology - (4 semester hours)
4. Applied Instruction - (3 semester hours)
5. Ensemble Performance - (6 semester hours)

A minimum of 3 semesters in ONE of the following ensemble tracks must be completed at the MUSI 3000 level or above. Therefore, a student must be enrolled in the ensemble for three semesters during their junior and senior years. The ensemble tracks include:

1. Symphonic Band and/or Concert Band
2. Jazz Ensemble
3. Percussion Ensemble
4. Orchestra
5. Chorale and/or Chamber Choir and/or Men's Glee Club

Certificate in Fine Arts - Music

A Certificate in Fine Arts-Music can be earned by Georgia Tech students upon completion of thirteen hours of coursework in music as approved by the Music Department director. Students following certificate guidelines will be exposed to an introduction to fine arts, including the development of personal aesthetic and critical skills, and will go on to more in-depth study in music analysis and history. A core component of this program involves sustained performance in one of Georgia Tech's instrumental or vocal ensembles.

At least nine hours must be at the 3000 level or higher. All other Undergraduate Certificate Academic Requirements as they appear in the Undergraduate Certificate Program Guidelines must be met. Courses must be taken on a letter-grade basis, and a *C* or better must be received in order to obtain course credit toward the Certificate. This Certificate Program is designed mainly for students with an interest in gaining an in-depth knowledge of music within the context of a technical undergraduate education. Required and elective courses are as follows:

Required courses (eleven credit hours):

1. Three hours of Survey of Music Technology (MUSI 3450)
2. Two hours of Composers and Their Music
3. Two hours of Music Theory (MUSI 2600, 3600)
4. Four hours core from one of the following areas:
    1. Band (Concert Band-MUSI 1102-3, 2102-3, 3102-3, 4102-3 and/or Symphonic Band (1112-4, 2112-4, 3112-4, 4112-4)
    2. Chamber Ensemble (MUSI 1401-3, 2401-3, 3401-3, 4401-3)
    3. Chorale (MUSI 1201-3, 2201-3, 3201-3, 4201-3)
    4. Jazz (MUSI 1301-3, 2301-3, 3301-3, 4301-3)
    5. Orchestra (MUSI 1601-3, 2601-3, 3601-3, 4601-3)
    6. Vocal Ensemble (MUSI 1211-3, 2211-3, 3211-3, 4211-3)

Elective courses (two credit hours):

Two hours of elective music courses with MUSI prefix.

Music Department Humanities Credit Information

CORE AREA C:

Music: 2600, 3450, 3500, 3600, 3610, 3620, 4450

Students are permitted to earn four hours of humanities credit for participation in ensembles.

Humanities Credit for Ensemble Participation

Students are permitted to earn four hours of humanities credit for participating in ensembles in the Music Department, provided the selection and concentration criteria are satisfied. Specifically, the selection must satisfy Criterion 1, and the concentration must satisfy either Criterion 2 or Criterion 3.

1. **Criterion 1**-The ensemble is chosen from the following list: Percussion Ensemble, Orchestra, Chorale, Concert Band, Jazz Ensemble, Symphonic Band, Vocal Ensemble, and Men's Glee Club.
2. **Criterion 2**-The student earns at least four credits in one of the ensembles chosen from the list in Criterion 1.
3. **Criterion 3**-The student earns at least four credits in a combination of Symphonic Band and Concert Band.

Athletic Bands

The Yellow Jacket Marching Band and Basketball Pep Bands are elements of the Georgia Tech Band Program. The Marching Band and Pep Bands perform at all home games and travel to several out-of-state events, including the ACC Tournament, NCAA Tournament, football games, and bowl appearances. These trips are financed by the Georgia Tech Athletic Association. Tryouts for the auxiliary units are held each spring. There is a mandatory band camp the week before fall classes begin. All members must sign up for the class.

The Georgia Tech Marching Band Handbook provides detailed information about the organization. Contact the Music Department for further information.

Concert Band

The Concert Band holds auditions at the beginning of each semester and is open to experienced wind and percussion players. This is a performing ensemble that covers both traditional and contemporary literature. Students may earn humanities credit by participating in a series of Concert Band and/or Symphonic Band courses.

Symphonic Band

An auditioned instrumental ensemble for the more serious student has established a reputation of musical excellence through the performance of challenging band literature. Individual performance time, sectionals, and a high level of musical standards in rehearsals are expected. Repertoire has consisted of the compositions of Grainger, Persichetti, Copland, Bernstein, Hindemith, Giannini, and Holst. Guest clinicians and conductors are frequently invited to enhance performance preparation. Auditions are scheduled by contacting the director before the first day of class.

Orchestra

The Georgia Tech Orchestra was founded in 1993 and has grown to full orchestration including brass, woodwinds, and percussion. The group performs a balance of classical, romantic, contemporary, and popular literature. The Orchestra performs during Parent's Weekend, the Music of the Season concert, and many other community appearances. Auditions are scheduled by appointment during the first two days of class.

The Chorale

With approximately 125 singers, the Chorale is Georgia Tech's largest vocal music organization. Students from nearly every school in the Institute are found among its membership. The Chorale specializes in music written for large groups and performs regularly on campus. The Chorale travels extensively during its biennial spring tour.

Jazz Ensemble

The Jazz Ensemble's repertoire ranges from the concert jazz compositions of Leonard Bernstein, Duke Ellington, and Stan Kenton to the contemporary works of Bob Mintzer and Pat Metheny, and to works commissioned for the band. The group performs at area jazz festivals and has appeared in hundreds of concerts on campus and in the community. Members sharpen their improvisational skills and strive to grow as instrumentalists in various jazz styles. Students rightfully take pride in the group's accomplished level of performance. Professional clinicians, guest artists, and conductors bring additional musical perspective. Auditions are scheduled by appointment during the first two days of class.

Chamber Ensembles

Small ensembles for experienced instrumentalists are organized prior to the first day of classes. Participation must be pre-approved by a faculty member in the Music Department. Members of these small ensembles must be participating in a large ensemble. Chamber Ensembles include string quartet, brass quintet, woodwind quintet, clarinet quartet, trumpet quartet, saxophone quartet, flute choir, etc. Students receiving class credit for these chamber groups must rehearse at least three hours a week and must be coached by a faculty member. Performances vary depending on the semester and may include appearances at school-related functions.

Percussion Ensemble

The Percussion Ensemble focuses on traditional and contemporary ensemble literature as well as transcriptions of popular music. This ensemble is offered to students with prior percussion background. In the fall, it serves as the marching percussion section of the Marching Yellow Jacket Band.

The Vocal Ensemble

This ensemble of twenty to twenty-four singers is selected through audition each spring and performs as the Georgia Tech Chamber Choir in campus and community concerts. The choir rehearses and performs quality choral music literature written especially for smaller choirs.

Electronic Percussion Ensemble

This ensemble performs a variety of student-designed and arranged music. All pieces are performed on student-designed and built instruments, as well as the latest in commercial controllers and interfaces. The use of multimedia is also encouraged in each arrangement.

The Men's Glee Club

The Men's Glee Club was organized on the Tech campus in 1906 and is the oldest student organization on campus. The Glee Club performs frequently on and off campus. Repertoire includes traditional men's chorus music, contemporary vocal percussion, and original compositions.

Music Technology

Introduction to Synthesized Computer Music explores the basic theories of music sequencing and engraving utilizing the computer and integrated synthesizers. "Survey of Music Technology" is a detailed survey of historic and contemporary electronic music systems, providing an overview of the technological, cultural, and aesthetic factors that have shaped developments in the creation and production of modern electronic music.

Integrating Music into Multimedia provides students insight and basic proficiency in current techniques that utilize music and digital audio technologies as part of multimedia productions.

Also covered are issues in software/hardware integration, data acquisition from various media, and intellectual property considerations. Other classes such as "Music Recording and Mixing," "Music Interface Design," "Multimedia Production and Post-production," and "Music and Sound Design" explore the intersection of music technology and digital media.

Additional Information

Other courses currently taught in the Music Department include "Composers and Their Music" and "Music Theory." Further information is available from the Music Department at 404.894.3193 or **www.music.gatech.edu/**.

College of Computing

Established in 1990
Location: 801 Atlantic Drive
Telephone: 404.894.3152
Fax: 404.894.9846
Web site: **www.coc.gatech.edu**

General Information

The founding of the College in 1990 as a focal point for the interdisciplinary advancement of computing caps a history that began in 1963 with the establishment of the School of Information Science. In 1972, this school was succeeded by the School of Information and Computer Science, the immediate predecessor of the current College of Computing. The College of Computing at Georgia Tech is one of the first College-level units devoted to the study of computing in the country.

Computer science is an important basis for many activities and is a natural and powerful partner with a variety of other disciplines. The College offers instructional and research programs in many areas, including algorithms and data structures, intelligent systems and robotics, computer architecture, cognitive science, databases, distributed and parallel systems, educational technology, graphics and visualization, human-computer interaction, information security, information systems, networking and telecommunications, operating systems, parallel architectures, programming languages, software engineering, and theories of automata and computation.

Beginning Fall 2006, the undergraduate program will be organized around the Threads™ program developed by College of Computing faculty. A Thread™ is an intuitive, flexible, and mutually strengthening set of courses that allows a student to craft their own distinctive future in any computing-related field they choose. Based on their particular interests, a student will choose two Threads™ consisting of computing combined with computational modeling, embodiment, foundations, information internetworks, intelligence, media, people, or platforms in order to weave a technical degree with a broad collection of skills and learning experiences they need to thrive in a globally competitive world. This approach allows the computing program to retain its strong computer science foundations, yet encourages partnerships with the multitude of disciplines affected by computing and technology.

The College conducts an increasing number of interdisciplinary research and instructional programs jointly with other campus units and operates three centers of interdisciplinary research for the campus: the Center for Experimental Research in Computer Systems (CERCS); the Graphics, Visualization, and Usability (GVU) Center; and the Georgia Tech Information Security Center (GTISC). The College's operations are housed in parts of five separate buildings on campus, including the College of Computing building.

The College awards bachelor's degrees in computer science, and bachelor's degrees in computational media jointly with the School of Literature, Communication, and Culture, master's degrees in computer science and in information security, and doctoral degrees in computer science and human-centered computing. The College offers an undergraduate CS minor. The College also offers the M.S. degree in human-computer interaction in collaboration with the School of Literature, Communication, and Culture and the School of Psychology. The College is a sponsor of a multidisciplinary program in Algorithms, Combinatorics, and Optimization (ACO), an approved doctoral degree program at Georgia Tech. Master's and doctoral degrees in bioengineering can be pursued through the College as one of the units participating in the Institute-wide interdisciplinary Bioengineering Program. A doctoral degree in bioinformatics can also be pursued through the College in conjunction with the School of Biology.

Cooperative Programs

The College of Computing participates in the undergraduate and graduate Cooperative Programs. See links below for further Information.

Center for Experimental Research in Computer Systems (CERCS)

The Center for Experimental Research in Computer Systems (CERCS) is a research center in the College of Computing and the School of Electrical and Computer Engineering. CERCS focuses on the design and evaluation of computer and software systems through experimental methods. CERCS constitutes one of the largest experimental systems programs in the United States. CERCS has a mission to:

1. promote experimental research in computer and software systems;
2. produce high-quality students trained in the experimental method of systems research and development;
3. foster high-impact and multidisciplinary research efforts using shared personnel and facilities;
4. support researchers and educators at Georgia Tech and its affiliated institutions.

CERCS conducts research in which new technologies are evaluated experimentally, with large-scale applications, and on systems of substantial size or complexity. CERCS research is driven by complex systems and applications that require integration across multiple CS technologies and areas of research. Current research areas include: information technology; software tools and compilers; languages and formal methods; middleware, distributed, and parallel systems; high performance, cluster, and scientific computing; operating, real-time, and embedded systems; reliable/survivable systems, computer security, and communications; wired and wireless networks; computer architecture and design; and bioelectronic systems.

For more information about CERCS, request a CERCS brochure from the Office of Student Services, College of Computing, or visit **www.cercs.gatech.edu**.

Georgia Tech Information Security Center (GTISC)

The Georgia Tech Information Security Center (GTISC) was established in 1998 as a result of the Sam Nunn/Bank of America Information Security Forum. GTISC focuses on research, education, and outreach in the information security community. The National Security Agency has named GTISC one of thirty-six Centers of Academic Excellence in Information Assurance Education. The Center concentrates on all aspects of information security, including:

1. conducting research that will lay the foundation for a discipline of information security that contributes to the development and testing of systems, devices, strategies, policies, practical concepts, and techniques;
2. education and training of information security professionals through degree and continuing education programs to ensure that information security awareness is instilled in all Georgia Tech students;
3. assisting industry, non-profit organizations, government, and individuals in solving information security problems through outreach programs and support of groups devoted to information security.

GTISC has gained a competitive advantage in the field of information security by providing undergraduate and graduate curricula, comprehensive research programs, state-of-the-art equipment, access to fully funded scholarships, and powerful industry alliances. Having positioned itself as a leader in the information security arena, GTISC holds a dominant position in this evolving and vital discipline.

For more information about GTISC, request a GTISC brochure from the Office of Student Services, College of Computing, or visit **www.gtisc.gatech.edu**.

Graphics, Visualization, and Usability (GVU) Center

The GVU Center is much more than graphics, visualization, and usability, the initial disciplines that gave rise to its name and first research directions. More than a decade after its launch, GVU is now focused on computing at the interface, where computing touches the outside world. Throughout most of the computing age, computers have been isolated systems, wholly contained within the framework of a dedicated input device, core processing units, and dedicated display devices. Today's computing systems are no longer monolithic, but rather are injected into almost all emerging technologies. This new model of computer-world interaction is driving a demand for new ideas involving computing interaction. The GVU Center brings together a research community that is dedicated to meeting this demand.

The GVU Center is an interdisciplinary teaching and research center housed in the College of Computing that spans the Georgia Tech campus and includes many outside collaborators. Its faculty and students are drawn from campus units as diverse as Architecture; Computing; Engineering; Psychology; Literature, Communication, and Culture; and others. The Center enables collaborative research that is often difficult to achieve in traditional academic and industrial settings. These unique combinations of research interests are the catalyst for significant insights into the rapidly evolving landscape of people and computation.

The GVU Center leads the forefront of research in relevant areas including human-computer interaction, ubiquitous and extended applications, augmented spaces, active environments, wearable computing, robotics, computer vision, intelligent sensing, cognitively and perceptually appropriate interfaces, and others.

For more information about the GVU Center, contact the Office of Student Services, College of Computing, and request a GVU brochure, or visit **www.gvu.gatech.edu**.

FACULTY

John P. Imlay Dean and Professor
Richard A. DeMillo

Associate Dean, Undergraduate Education and Faculty Development and Professor
Merrick Furst

Associate Dean for Research and Graduate Programs and Professor
Ellen Witte Zegura

Associate Dean for Special Programs and Fredrick G. Storey Chair in Computing and Professor
Richard J. Lipton

Assistant Dean for Diversity and Special Programs
Maureen S. Biggers

Assistant Dean for Continuing Education
Thomas D. Pilsch

Stephen Fleming Chair in Telecommunications and Professor
James D. Foley

John P. Imlay Jr. Chair in Software and Professor
Calton Pu

Regents' Professors
Mostafa H. Ammar, Ronald C. Arkin, Janet L. Kolodner.

Professors
Mustaque Ahamad, Alberto Apostolico, Albert N. Badre (emeritus), Aaron Bobick, Lucio Chiaraviglio (emeritus), Henrik Christensen, Charles M. Eastman (joint), Philip H. Enslow Jr. (emeritus), Norberto Ezquerra (part time), Peter A. Freeman, Richard M. Fujimoto, Seymour E. Goodman (joint), Concettina Guerra (part time), Mark Guzdial, Mary Jean Harrold, Ramesh C. Jain (joint), Ralph Merkle, Raymond E. Miller (emeritus), Shamkant B. Navathe, Nancy J. Nersessian, Krishna V. Palem (joint), Haesun Park, Umakishore Ramachandran, Jaroslaw R. Rossignac, William Rouse (joint), Karsten Schwan, Vladimir Slamecka (emeritus), John T. Stasko, Prasad Tetali (joint), Vijay V. Vazirani, Pranas Zunde (emeritus).

Associate Professors
Gregory D. Abowd, David Bader, Suagata Basu (joint), Amy S. Bruckman, Ellen Do (joint), Keith Edwards, Irfan A. Essa, Ashok K. Goel, Rebecca Grinter, Mark Guzdial, Wenke Lee, Ling Liu, Leo Mark, Milena Mihail, Melody Moore (visiting), Elizabeth D. Mynatt, Edward R. Omiecinski, Santosh Pande, Colin Potts, Ashwin Ram, Dana Randall, James M. Rehg, Olin Shivers, Gregory Turk, H. Venkateswaran, Eric Vigoda.

Assistant Professors
Tucker R. Balch, Suagata Basu (joint), Alexandra Boldyreva, Brian Cooper, Frank Dellaert, Yan Z. Ding, Andre L. M. Dos Santos, Constantinos Dovrolis, Ronald W. Ferguson, Charles L. Isbell Jr., Subhash Khot, Wenke Lee, Gabriel Loh, Blair MacIntyre, Panagiotis Manolios, Michael Mateas (joint), Michael Niemier, Alessandro Orso, Jeffrey S. Pierce, Yannis Smaragdakis, Thad E. Starner, Andrzej Szymczak, Bruce N. Walker (joint), Jun Xu.

Academic Professionals
Randy Carpenter, David White

Principal Research Scientists
Amihood Amir, W. Michael McCracken

Senior Research Scientists
Angus McLean, J. Spencer Rugaber, Juliana Lancaster

Lecturers
William D. Leahy Jr., David M. Smith, Monica Sweat, Robert L. Waters Jr., Walter Sapronov, Kent Lyons

Adjunct Faculty
Douglas M. Blough, Jay D. Bolter, Mark Borodovsky, Richard Catrambone, Alexander C. Kirlik, Sung-Kyu Lim, Christine Mitchell, Vincent J. Mooney, Wendy C. Newstetter, David Prince, Mani M. Subramanian, Craig A. Tovey, Linda M. Wills, Sudhakar Yalamanchili, Jeff Vetter, Jeff Nichols, Thomas Zacharia, Howard Schmidt, Alexandra Mazalek, Allen Tannenbaum, Brian Worley, Kalyan Perumalla

Bachelor of Science in Computer Science

The undergraduate degree in computer science (CS) offered by the College of Computing provides a solid foundation of knowledge and skills for applying digital processes effectively to issues of broad interest in a global society. Our program is based on a unique concept, Threads™, a significant College of Computing innovation in undergraduate CS education. The curriculum builds on a base of fundamentals in programming and computational theory to allow each student the opportunity to explore a variety of computing paths in depth. There are eight Threads, each providing a focused journey through a broad spectrum of course offerings at Georgia Tech in preparation for a distinctive future in a changing and interconnected world. Each student selects two Threads to fulfill the requirements for an accredited Bachelor of Science degree in computer science. It is at the intersection of the two paths that the unique synergistic value of this educational experience is realized. Graduates will leave the College of Computing fully aware of the limitless potential of their dynamic discipline and be able to adapt and continuously add value to society throughout their careers.

The CS curriculum also offers opportunities in undergraduate research and international study. In addition to the standard four-year plan, a five-year cooperative plan is offered for students who wish to combine their academic education with industry experience.

The undergraduate program requires a total of 124 credit hours for graduation, plus a two-hour Wellness course. With the exception of free electives, all Bachelor of Science degree coursework must be taken on a letter-grade basis. Up to six hours of free electives may be taken on a pass/fail basis.

All required CS courses, whether Thread or non-Thread, must be completed with a *C* or better to be counted toward degree requirements. All courses listed as required for a Thread, whether CS or non-CS, must be completed with a *C* or better to be counted toward degree requirements.

For more information about the BSCS undergraduate program or the College of Computing, please visit **www.cc.gatech.edu**

Threads Program

Our new program deals with these issues by creating "Threads TM" through the degree program. The Threads TM represent partial paths through the curriculum. Thus, a student weaves a degree from these Threads. Students are not forced to make Thread decisions very early in their academic careers; however, they may if they want. We define the Threads so they are flexible enough to allow for a variety of technical and creative experiences. Threads are coherent enough that students develop computing skills even if their focus shifts as they go along.

A Thread provides an intuitive, flexible and mutually strengthening set of courses that allows a student to craft a distinctive future in an area that is certain to have societal value in the emerging world. A Thread provides a skill and credential basis that allows graduates to create value in ways beyond what would be possible with only a narrowly focused tool set.

The College of Computing defines eight Threads TM

Choose any two threads to create your own path and special variation on an area of study.

1. **Computing and Computational Modeling**: representing natural and physical processes
2. **Computing and Embodiment**: creating devices embedded in physical objects that interact in the physical world
3. **Computing and Foundations**: theoretical foundations underlying a wide range of computing disciplines
4. **Computing and Information Internetworks**: representing, transforming, transmitting, and presenting information
5. **Computing and Intelligence**: building top-to-bottom models of human-level intelligence
6. **Computing and Media**: building systems in order to exploit computing's abilities to provide creative outlets
7. **Computing and People**: designing, building, and evaluating systems that treat the human as a central component
8. **Computing and Platforms**: creating computer architectures, systems, and languages

Threads™ are defined as partial paths through the course offerings of the Institute. Every student constructs their own personalized computer science degree by weaving through two Threads™. Each Thread™ is about 2/3 of a degree, but with Thread™ arithmetic, since there's so much overlap, 2/3 + 2/3 = 1. Each pair of Threads™ fulfills the requirements for an accredited Bachelor of Science degree in computer science.

The Power of One Thread

Are you a computationalist who is interested in the expressive arts (telling stories, making games, creating emotional experiences)? Join the Computing and Media Thread. Here you'll see courses on topics ranging from computational graphics, to Hamlet, from human perception to interactive fiction engines.

Are you a computationalist who is interested in placing intelligence in physical objects like robots, airplanes, or cell phones? Join the Computing and Embodiment Thread. Here you'll see courses on everything from computational sensors to dealing with noisy data, from real-time operating systems to mobile power issues and computational autonomy.

Weaving Two Threads Together - A Leap

Are you interested in computer security? Then perhaps choose Computing and Information to learn how data is stored, retrieved, encoded, transmitted, etc. And perhaps also choose Computing and People to learn how people use technology, how to run experiments with human subjects, etc. The kind of person you will become is the kind of person who will be able to invent and build secure systems that are usable by people.

The Computing and Computational Modeling Thread

The computational modeling thread is intended for students interested in developing a deep understanding and appreciation of how natural and human-generated systems such as weather, biological processes, supply chains, or computers, can be represented by mathematical models and computer software. Such models are widely used today to better understand and predict the behavior of such systems. Because these models are often described and represented by mathematical expressions, and the models themselves often deal with physical phenomena, a background in mathematics and the sciences is required. Combining this background with a deep knowledge in computer science will yield the basic tools necessary to transform abstract conceptual models to computer programs that execute efficiently on digital machines. The required coursework in this thread includes topics in continuous and discrete mathematics, the sciences, and computing. Elective courses enable students to further develop and apply their knowledge and skills to a specific discipline where computational modeling plays an important role.

Read About Other Threads to Create a B.S. in CS

1. Computing and Embodiment
2. Computing and Foundations
3. Computing and Information Internetworks
4. Computing and Intelligence
5. Computing and Media
6. Computing and People
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and Embodiment
2. Computational Modeling and Foundations
3. Computational Modeling and Information Internetworks
4. Computational Modeling and Intelligence
5. Computational Modeling and Media
6. Computational Modeling and People
7. Computational Modeling and Platforms

The Computing and Embodiment Thread

The Embodiment thread is concerned with embedded computational artifacts that interact with people or the physical world. In this thread one learns how to create and evaluate devices that operate under physical constraints such as size, power, and bandwidth. Examples include PDAs, cell phones, robots, jet engines, and intelligent appliances.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Foundations
3. Computing and Information Internetworks
4. Computing and Intelligence
5. Computing and Media
6. Computing and People
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and Embodiment
2. Embodiment and Foundations
3. Embodiment and Information Internetworks
4. Embodiment and Intelligence
5. Embodiment and Media
6. Embodiment and People
7. Embodiment and Platforms

The Computing and Foundations Thread

The Foundations thread is where computing meets itself. Foundations teaches students the theoretical and mathematical foundations underlying a wide range of computational disciplines. Early prepartion includes discrete mathematics, algorithms, and complexity. Knowledge goals are for students to mature in development and analysis of abstract models for applications ranging from theoretical computer science to computational physics, biology, mathematics, economics, and optimization.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Embodiment
3. Computing and Information Internetworks
4. Computing and Intelligence
5. Computing and Media
6. Computing and People
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and Foundations
2. Embodiment and Foundations
3. Foundations and Information Internetworks
4. Foundations and Intelligence
5. Foundations and Media
6. Foundations and People
7. Foundations and Platforms

The Computing and Information Internetworks Thread

The Information Internetworking thread is where computing meets the data enterprise and all that this implies. The thread prepares students for all levels of information management by helping them to capture, represent, organize, transform, communicate, and present data so that it becomes information.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Embodiment
3. Computing and Foundations
4. Computing and Intelligence
5. Computing and Media
6. Computing and People
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and Info Internetwks
2. Embodiment and Information Internetworks
3. Foundations and Information Internetworks
4. Information Internetworks and Intelligence
5. Information Internetworks and Media
6. Information Internetworks and People
7. Information Internetworks and Platforms

The Computing and Intelligence Thread

The Intelligence thread is where computing models intelligence. This thread is concerned with computational models of intelligence from top to bottom. To this end, we emphasize designing and implementing artifacts that exhibit various levels of intelligence as well as understanding and modeling natural cognitive agents such as humans, ants, or bees. Students acquire the technical knowledge and skills necessary for expressing, specifying, understanding, creating, and exploiting computational models that represent cognitive processes. It prepares students for fields as diverse as artificial intelligence, machine learning, perception, and cognitive science, as well as for fields that benefit from applications of techniques from those fields.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Embodiment
3. Computing and Foundations
4. Computing and Information Internetworks
5. Computing and Media
6. Computing and People
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and Intelligence
2. Embodiment and Intelligence
3. Foundations and Intelligence
4. Information Internetworks and Intelligence
5. Intelligence and Media
6. Intelligence and People
7. Intelligence and Platforms

The Computing and Media Thread

The media thread is where computing meets design. This thread prepares students by helping them to understand the technical and computational capabilities of systems in order to exploit their abilities to provide creative outlets.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Embodiment
3. Computing and Foundations
4. Computing and Information Internetworks
5. Computing and Intelligence
6. Computing and People
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and Media
2. Embodiment and Media
3. Foundations and Media
4. Information Internetworks and Media
5. Intelligence and Media
6. Media and People
7. Media and Platforms

The Computing and People Thread

The People thread is where computing meets users. This thread prepares students by helping them to understand the theoretical and computational foundations for designing, building, and evaluating systems that treat the human as a central component.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Embodiment
3. Computing and Foundations
4. Computing and Information Internetworks
5. Computing and Intelligence
6. Computing and Media
7. Computing and Platforms

View The Degree Requirement Combinations

1. Computational Modeling and People
2. Embodiment and People
3. Foundations and People
4. Information Internetworks and People
5. Intelligence and People
6. Media and People
7. People and Platforms

The Computing and Platforms Thread

The Platforms thread is where many of the practical skills of computing are learned. Like Foundations, Platforms lies at the center of computing. It prepares students to create and evaluate computer architectures, systems, and languages across a variety of paradigms and approaches.

Read About Other Threads to Create a B.S. in CS

1. Computing and Computational Modeling
2. Computing and Embodiment
3. Computing and Foundations
4. Computing and Information Internetworks
5. Computing and Intelligence
6. Computing and Media
7. Computing and People

View The Degree Requirement Combinations

1. Computational Modeling and Platforms
2. Embodiment and Platforms
3. Foundations and Platforms
4. Information Internetworks and Platforms
5. Intelligence and Platforms
6. Media and Platforms
7. People and Platforms

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: MEDIA & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS

CS SR PROJECT (4980 or 4911) *	3
CS 3240 LANGUAGES & COMPUTATION *	3
CS 3451 COMPUTER GRAPHICS *	3
PICK ONE: CS 3251, CS 3300, CS 4560 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: MEDIA & PEOPLE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2260 MEDIA DEVICE ARCHITECTURES (Media Thread)	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3451 COMPUTER GRAPHICS *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 2015 RESEARCH METHODS *	4
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3

PICK ONE: PSYC 2210, PSYC 2760, PSYC 3040 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INTELLIGENCE & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
PICK ONE: CS 3251, CS 3300, CS 4560 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
CS 3240 LANGUAGES & COMPUTATION *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INTELLIGENCE & PEOPLE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 2015 RESEARCH METHODS *	4
CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - FALL	HRS

CS SR PROJECT (4980 or 4911) *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
PICK ONE: PSYC 2210, PSYC 2760, PSYC 3040 *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INTELLIGENCE & MEDIA
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 * or CS 2260 * (Media Thread)	4 | 3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16 | 15**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3451 COMPUTER GRAPHICS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS

CS SR PROJECT (4980 or 4911) *	3
CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	1 | 2
TOTAL SEMESTER HOURS =	**16 | 17**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INFORMATION INTERNETWORKS & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3240 LANGUAGES & COMPUTATION *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3
CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A	3

PROCESSOR *	
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INFORMATION INTERNETWORKS & PEOPLE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PSYC 2015 RESEARCH METHODS *	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3

PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
PICK ONE: PSYC 2210, PSYC 2760, PSYC 3040 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INFORMATION INTERNETWORKS & MEDIA
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
CS 3451 COMPUTER GRAPHICS *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3

CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: INFORMATION INTERNETWORKS & INTELLIGENCE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: FOUNDATIONS & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 4032 COMBINATORIAL ANALYSIS *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3240 LANGUAGES & COMPUTATION *	3
PICK ONE: CS 3251, CS 3300, CS 4560 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3

CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
PICK ONE: CS 3251, CS 3451, CS 3600 or CS 4400 *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: MATH 4305, MATH 4580 or MATH 4640 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: FOUNDATIONS & PEOPLE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 2340 OBJECTS & DESIGN *	3
MATH 4032 COMBINATORIAL ANALYSIS *	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
PSYC 2015 RESEARCH METHODS *	4
PICK ONE: PSYC 2210, PSYC 2760, PSYC 3040 *	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - FALL	**HRS**

CS SR PROJECT (4980 or 4911) *	3
PICK ONE: MATH 4305, MATH 4580 or MATH 4640 *	3
PICK ONE: CS 3251, CS 3451, CS 3600 or CS 4400 *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: FOUNDATIONS & MEDIA
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 * or CS 2260 *	4 | 3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
TOTAL SEMESTER HOURS =	**17 | 16**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 2340 OBJECTS & DESIGN *	3
MATH 4032 COMBINATORIAL ANALYSIS *	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
CS 3451 COMPUTER GRAPHICS *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3
PICK ONE: MATH 4305, MATH 4580 or MATH 4640 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3 | 4
TOTAL SEMESTER HOURS =	**15 |16**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: FOUNDATIONS & INTELLIGENCE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 2340 OBJECTS & DESIGN *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3
MATH 4032 COMBINATORIAL ANALYSIS *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: MATH 4305, MATH 4580 or MATH 4640 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: FOUNDATIONS & INFORMATION INTERNETWORKS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
MATH 4032 COMBINATORIAL ANALYSIS *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 3251, CS 3451, CS 3600 or CS 4400 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: MATH 4305, MATH 4580 or MATH 4640 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: EMBODIMENT & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 4605 MOBILE AND UBIQUITOUS COMPUTING *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 3040 SENSATION AND PERCEPTION *	3
CS 3251 COMPUTER NETWORKING I *	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3

CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3240 LANGUAGES & COMPUTATION *	3
CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: EMBODIMENT & PEOPLE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 3040 SENSATION AND PERCEPTION *	3
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 4605 MOBILE AND UBIQUITOUS COMPUTING *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3251 COMPUTER NETWORKING I *	3
PICK ONE:CS 3510 DESIGN & ANALYSIS OF ALGORITHMS * or CS 3240 LANGUAGES & COMPUTATION *	3
PSYC 2015 RESEARCH METHODS *	4
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: EMBODIMENT & MEDIA
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 4605 MOBILE AND UBIQUITOUS COMPUTING *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 3040 SENSATION AND PERCEPTION *	3
CS 3451 COMPUTER GRAPHICS *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**

CS SR PROJECT (4980 or 4911) *	3
CS 3251 COMPUTER NETWORKING I *	3
PICK ONE:CS 3510 DESIGN & ANALYSIS OF ALGORITHMS * or CS 3240 LANGUAGES & COMPUTATION *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: EMBODIMENT & INTELLIGENCE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	**HRS**
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 3040 SENSATION AND PERCEPTION *	3
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 4605 MOBILE AND UBIQUITOUS COMPUTING *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**

CS SR PROJECT (4980 or 4911) *	3
PICK ONE: CS 4635, CS 4641, CS 4495, or CS 4632 *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3251 COMPUTER NETWORKING I *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4002 ROBOT & SOCIETY *	3
CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
PICK ONE: CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: EMBODIMENT & INFORMATION INTERNETWORKS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS or CS 4605 MOBILE AND UBIQUITOUS COMPUTING *	3
CS 2340 OBJECTS & DESIGN *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 3040 SENSATION AND PERCEPTION *	3
CS 3251 COMPUTER NETWORKING I *	3
CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

PICK ONE: CS 4400, CS 4365, CS 4235 *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
PICK ONE: CS 4400, CS 4365, CS 4235 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: EMBODIMENT & FOUNDATIONS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
MATH 4032 COMBINATORIAL ANALYSIS *	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
PSYC 3040 SENSATION AND PERCEPTION *	3
CS 3251 COMPUTER NETWORKING I *	3
PICK ONE: CS 3630 or CS 4605 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

PICK ONE: MATH 4305, MATH 4580 or MATH 4640 *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
PICK ONE: CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 2403 DIFFERENTIAL EQUATIONS *	4
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3240 LANGUAGES & COMPUTATION *	3
PICK ONE: CS 3251, CS 3300, CS 4560 *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
THREAD ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & PEOPLE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 2403 DIFFERENTIAL EQUATIONS *	4
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
PICK ONE: PSYC 2210, PSYC 2760, or PSYC 3040 *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3
CS 2340 OBJECTS & DESIGN *	3

PICK ONE: CS 3790, CS 3750, or CS 4660 *	3
PICK ONE: CS 3790, CS 3750, or CS 4660 *	3
PSYC 2015 RESEARCH METHODS *	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & MEDIA
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 2403 DIFFERENTIAL EQUATIONS *	4
THREAD ELECTIVE(S)	1
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	HRS
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3451 COMPUTER GRAPHICS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS

CS SR PROJECT (4980 or 4911) *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & INTELLIGENCE
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING*	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	**HRS**
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 2403 DIFFERENTIAL EQUATIONS *	4
THREAD ELECTIVE(S)	1
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	**HRS**
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
CS SR PROJECT (4980 or 4911) *	3

PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
PICK ONE: CS 4635, CS 4641, CS 4495, CS 4632 *	3
PICK ONE: CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 3790 INTRODUCTION TO COGNITIVE SCIENCE *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & INFORMATION INTERNETWORKS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING*	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 2403 DIFFERENTIAL EQUATIONS *	4
THREAD ELECTIVE(S)	1
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	HRS
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3300 INTRODUCTION TO SOFTWARE ENGINEERING *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
PICK ONE: CS 3251, CS 4400, CS 4365, CS 4235 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & FOUNDATIONS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING*	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
SOCIAL SCIENCE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
MATH 2403 DIFFERENTIAL EQUATIONS *	4
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
THREAD ELECTIVE(S)	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

MATH 4032 COMBINATORIAL ANALYSIS *	3
PICK ONE: CS 3240 LANGUAGES & COMPUTATION * or CS 4510 AUTOMATA AND COMPLEXITY THEORY *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
MATH 4305 or MATH 4580 or MATH 4640 *	3
THREAD ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: COMPUTATIONAL MODELING & EMBODIMENT
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING*	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
PHYS 2212 INTRODUCTORY PHYSICS II (Required)	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
CS 1171 INTRODUCTORY COMPUTING IN MATLAB	1
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
LAB SCIENCE ELECTIVE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
CS 2340 OBJECTS & DESIGN *	3
THREAD ELECTIVE(S)	1
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
MATH/CE/ISYE 3770 STATISTICS AND APPLICATIONS (Required)	3
FREE ELECTIVE(S)	3
CS 3251 COMPUTER NETWORKING I *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
CS 3600 INTRODUCTION TO ARTIFICIAL INTELLIGENCE *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3650 PROTOTYPING INTELLIGENT APPLIANCES *	3
MATH 2403 DIFFERENTIAL EQUATIONS *	4
PSYC 3040 SENSATION AND PERCEPTION *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
PICK ONE: CS 4230, CS 4777, MATH 4255, MATH 4640 *	3
CS 3630 INTRODUCTION TO PERCEPTION AND ROBOTICS * or CS 4605 MOBILE AND UBIQUITOUS COMPUTING *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: PEOPLE & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
CS SR PROJECT (4980 or 4911) *	3

CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
PICK ONE: CS 3790, CS 3750, CS 4660 *	3
PICK ONE: PSYC 2210, PSYC 2760, PSYC 3040 *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 3251, CS 3300, CS 4560 *	3
CS 3240 LANGUAGES & COMPUTATION *	3
PSYC 2015 RESEARCH METHODS *	4
THREAD ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
THREAD: MEDIA & PLATFORMS
2006 - 2007 DEGREE REQUIREMENTS
College Of Computing
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1301 INTRODUCTION TO COMPUTING * or CS 1315 INTRODUCTION TO MEDIA COMPUTATION *	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS *	3
CS 1331 INTRODUCTION TO OBJECT ORIENTED PROGRAMMING *	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
PSYC 1101 GENERAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1332 DATA STRUCTURES AND ALGORITHMS FOR APPLICATIONS*	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
LAB SCIENCE SEQUENCE	4
HUMANITIES ELECTIVE(S)	3
MATH 3012 APPLIED COMBINATORICS	3
CS 2110 COMPUTER ORGANIZATION & PROGRAMMING *	4
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LAB SCIENCE SEQUENCE	4
SOCIAL SCIENCE ELECTIVE(S)	3
CS 2340 OBJECTS & DESIGN *	3
CS 2200 COMPUTER SYSTEMS & NETWORKS *	4
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - SPRING	HRS
MATH 3215, or MATH/CE/ISYE 3770, or ISYE 2027, or ISYE 2028	3
FREE ELECTIVE(S)	3
CS 3210 DESIGN OF OPERATING SYSTEMS *	3
CS 3220 COMPUTER STRUCTURES: HARDWARE/SOFTWARE CODESIGN OF A PROCESSOR *	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS *	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS

CS SR PROJECT (4980 or 4911) *	3
CS 3240 LANGUAGES & COMPUTATION *	3
CS 3451 COMPUTER GRAPHICS *	3
PICK ONE: CS 3251, CS 3300, CS 4560 *	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM * or CS 4002 ROBOT & SOCIETY *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
PICK ONE: CS 4455, CS 4480, CS 4496, CS 4770 *	3
THREAD ELECTIVE(S)	3
THREAD ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Must earn a *C* or better in each of these courses.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

International Plan

2006-2007 DEGREE REQUIREMENTS

College of Computing

The College of Computing has an approved BSCS International Plan which accommodates the unique requirements of this option discussed at **www.registrar.gatech.edu/degreq/internationalplan.php**

However, due to the flexible nature of the Threads curriculum, the International Plan designation may not be available with all of the Thread combinations. Efforts will be made to work with interested students to accommodate their individual circumstances with regard to the International Plan designator for the Bachelor of Science in Computer Science.

Bachelor of Science in Computer Science - Research Option

To complete Research Option in the College of Computing, students must:

1. Complete at least 9 units of undergraduate research
    1. Over at least two, preferably three terms
    2. Research may be for either pay or credit
2. Write an undergraduate thesis/report of research on their findings
3. Take the class LCC 4700 "Writing an Undergraduate Thesis"
    1. Taken during the thesis-writing semester

Research Classes

The following classes count towards fulfillment of research option:

Research for Credit:

CS 2699-Undergraduate Research (freshman and sophomore)

CS 4699-Undergraduate Research (junior and senior)

CS 4980-Research Capstone Project

Research for Pay (Audit only):

CS 2698-Research Assistantship (freshman and sophomore)

CS 4698-Research Assistantship (junior and senior)

To get credit towards completion of research option for research for pay, students must be registered for the appropriate audit-only, research for pay class (CS 2698 or 4698). If work on research for pay begins after the close of registration and the student has not signed up for the appropriate class, unfortunately it is not possible to get credit towards research option for work that term.

A research project will also fulfill the student's capstone design requirement if they register for CS 4980 Capstone Project for one of the research terms. This is typically done the last semester of research, while taking the writing class LCC 4700.

Completion of Research Option is noted on the student's transcript. For more information, see: **www.urop.gatech.edu**

Bachelor of Science in Computational Media

The Bachelor of Science in Computational Media is a collaborative effort by the College of Computing and the School of Literature, Communication, and Culture. The program offers a thorough education in all aspects of the computer as a medium: the technical, the historical-critical, and the applied. Program graduates will have both significant hands-on and theoretical knowledge of computing and an understanding of visual design and the history of media. Graduates will be uniquely positioned to plan, create, and critique new digital media forms for entertainment, education, and business communication.

The program requires thirty-six semester hours of courses in computer science and thirty hours of courses in LCC (in addition to the humanities requirement). A substantial number of required courses in each unit ensures that every student has basic competence in:

1. computational principles;
2. the representation and manipulation of digital media, including graphics and sound;
3. software design;
4. visual and interactive design;
5. digital arts; and
6. media theory and history.

After completing required courses, students specialize in a specific area of media computing. Typical specialty areas include:

1. Interactive games design: This is one of the fastest growing areas of digial media production and is already a $7 billion industry.
2. Special effects: As special effects become more complex and focused on computer generated imagery, employment in this area will increasingly require expertise in both media and computer science.
3. Culturally informed program design: As programming work is increasingly outsourced to nations offering lower labor costs, programming that adds value through a sophisticated response to the needs of specific corporate and group cultures will offer job security to American programmers.

Depending on their coursework within the B.S. program, students will also be qualified to enter graduate studies in computer science, digital arts, digital media studies, and human-computer interface.

BACHELOR OF SCIENCE IN COMPUTATIONAL MEDIA

2006 - 2007 DEGREE REQUIREMENTS

Interdisciplinary Degree With The College Of Computing And Ivan Allen College

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1315 or 1301 or 1371	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
CS 1050 or 1316 or 1331	6
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
LCC 2700 INTRODUCTION TO COMPUTATIONAL MEDIA	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
CS 1050 or 1316 or 1331 or 2260 or 2335 or 2340	3
HUMANITIES ELECTIVE(S)	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR - SPRING	HRS
LCC 2710 or2720 or 2730	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
LCC 2400 or 2500 or 2600	3
CS 2260 or 2335 or 2340 or 4001	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LCC [3254, 3256, 3352] or LCC [2600, 3262, 3362] or LCC [2100, 2116, 3318] or LCC [3202, 3226, 3214]**	3
LCC 2710 or 2720 or 2730 or 3705 or 3710	3
CS 2260 or 2235 or 2340 or 4001	3
LCC ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
LCC 3206 STUDIES IN COMMUNICATION & CULTURE or LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
LCC 2710 or 2720 or 2730 or 3705 or 3710	3
CS 2260 or 2335 or 2340 or 4001	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
LCC [3254, 3256, 3352] or LCC [2600, 3262, 3362] or LCC [2100, 2116, 3318] or LCC [3202, 3226, 3214]**	3
LCC 4699 or 4720 or 4725 or 4730 or 4731 or 4732	3

CS ELECTIVE(S) (3000 or 4000 Level) *	6
CS 4903 SPECIAL PROBLEMS or LCC 4699 UNDERGRADUATE RESEARCH *	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
LCC [3254, 3256, 3352] or LCC [2600, 3262, 3362] or LCC [2100, 2116, 3318] or LCC [3202, 3226, 3214]**	3
CS ELECTIVE(S) (3000 or 4000 Level) *	6
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

* Must be approved by an advisor.
** Must complete 9 hours in a single area.

Bachelor of Science in Computational Media - International Plan

The CM International Plan follows the Institute model to develop a global competence within the student's major program of study. It thus integrates international studies and experiences with work in all aspects of the computer as a medium, preparing graduates to plan, create, and critique new digital media forms within an international professional environment.

As in the basic CM program, students following the International Plan will take thirty-six hours of courses in CS and thirty hours of courses in LCC (in addition to the basic humanities requirement). Students will also:

1. Take three international courses, including one from each of the following categories: International Relations, Global Economics, and a course on a specific country or region.
2. Spend two terms abroad engaged in any combination of study abroad, research, or internship.
3. Demonstrate language proficiency equivalent to two years of college-level language study (to be determined by testing).
4. Complete a CM capstone course that links international studies with the major.

BACHELOR OF SCIENCE IN COMPUTATIONAL MEDIA
INTERNATIONAL PLAN
2006 - 2007 DEGREE REQUIREMENTS

Interdisciplinary Degree With The College Of Computing And Ivan Allen College
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CS CORE COURSE *	3
LANGUAGE I	3
GT 1000 FRESHMAN SEMINAR ***	1
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
CS CORE COURSE *	3
LANGUAGE II	3
GLOBAL ECONOMICS ELECTIVE	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
CS CORE COURSE *	3
LCC 2700 INTRODUCTION TO COMPUTATIONAL MEDIA	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
LANGUAGE III	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
CS CORE COURSE *	3
CS CORE COURSE *	3
LCC 2400 or 2500 or 2600	3
LCC 2710 or 2720 or 2730	3
LANGUAGE IV	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
CS CORE COURSE *	3
LCC SPECIALTY COURSE	3
LCC 2730 or 3705 or 3710	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	HRS
CS CORE COURSE *	3
CS SPECIALTY COURSE	3
LCC SPECIALTY COURSE	3
FREE ELECTIVE(S)	3
INTERNATIONAL RELATIONS ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
LCC 4699 or CS 4903 (CAPSTONE PART 1)	2

CS SPECIALTY COURSE	3
CS SPECIALTY COURSE	3
LCC 2730 or 3705 or 3710	3
LCC SPECIALTY COURSE	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR - SPRING	**HRS**
LCC 4699 or CS 4903 (CAPSTONE PART 2)	2
CS SPECIALTY COURSE	3
LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
LCC 4699 or 4720 or 4725 or 4730 or 4731 or 4732	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***CS CORE COURSES**
CS 1050
CS 1316**, 1301, or 1371
CS 1331
CS 2260
CS 2335
CS 2340
CS 4001

** CS 1315 is the Prerequisite for CS 1316, which may not be taken for credit by students who have already received credit for CS 1331 .

*** GT 1000 is not counted in the 122 total required hours.

Bachelor of Science in Computational Media - Research Option

The CM Research Plan follows the Institute model to allow students to incorporate research experiences into the major program of study. Students will complete nine hours of credit research work on various aspects of the computer as a medium, working in such areas as computational principles, the representation and manipulation of digital media, software design, visual and interactive design, digital art, and media theory and history.

As in the basic CM program, students following the Research Plan will take thirty-six hours of courses in CS and thirty hours of courses in LCC (in addition to the basic humanities requirement). Students will also:

1. Complete nine hours of undergraduate research.
2. Complete LCC 4700 Writing the Undergraduate Thesis

BACHELOR OF SCIENCE IN COMPUTATIONAL MEDIA
RESEARCH OPTION
2006 - 2007 DEGREE REQUIREMENTS

Interdisciplinary Degree With The College Of Computing And Ivan Allen College

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CS CORE COURSE *	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
GT 1000 FRESHMAN SEMINAR ***	1
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
CS CORE COURSE *	3
CS CORE COURSE *	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
LCC 2700 INTRODUCTION TO COMPUTATIONAL MEDIA	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
CS CORE COURSE *	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
LCC 2710 or2720 or 2730	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
LCC 2400 or 2500 or 2600	3
CS CORE COURSE *	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LCC SPECIALTY COURSE	3
CS CORE COURSE *	3
LCC 2730 or 3705 or 3710	3
LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
UNDERGRADUATE RESEARCH	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
CS CORE COURSE *	3
CS SPECIALTY COURSE	3
LCC SPECIALTY COURSE	3
LCC 2730 or 3705 or 3710	3
UNDERGRADUATE RESEARCH	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
LCC 4699 or CS 4903 (CAPSTONE PART 1)	2
CS SPECIALTY COURSE	3

CS SPECIALTY COURSE	3
LCC SPECIALTY COURSE	3
LCC 4720 or 4725 or 4730 or 4731 or 4732	3
UNDERGRADUATE RESEARCH	3
TOTAL SEMESTER HOURS =	**17**

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FOURTH YEAR - SPRING	HRS
LCC 4699 or CS 4903 (CAPSTONE PART 2)	2
CS SPECIALTY COURSE	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	1
LCC 4700 UNDERGRADUATE THESIS WRITING	2
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***CS CORE COURSES**
CS 1050
CS 1316**, 1301, or 1371
CS 1331
CS 2260
CS 2335
CS 2340
CS 4001

** CS 1315 is the Prerequisite for CS 1316, which may not be taken for credit by students who have already received credit for CS 1331 .

*** GT 1000 is not counted in the 122 total required hours.

Minor in Computer Science

For those students majoring in other disciplines who wish to gain a deeper understanding of computing and its applications, the College of Computing offers the minor in computer science. The minor in computer science requires at least eighteen semester hours of computer science coursework, of which twelve semester hours must be at the 3000 level or higher. Those courses at the 3000 level or higher must be selected from the approved CS major specialization courses or be a required 3000-level course in the CS major (e.g., CS 3240 or CS 3510).

Certificate and Minor in Cognitive Science

Both a certificate and minor in Cognitive Science are offered by the Cognitive Science Program, drawing on a combined curriculum spanning the College of Computing, the School of Psychology, the School of Industrial and Systems Engineering, and the School of Public Policy. The certificate and minor offer students the chance to expand their understanding of their home disciplines by incorporating the latest theories and models in cognitive psychology, artificial intelligence, human-computer interaction, and other cognitive disciplines.

For a certificate in Cognitive Science, students must complete CS/ISYE/PSYC/PST 3790: Introduction to Cognitive Science, along with nine credit hours of cognitively related coursework. For a minor, students must complete an additional three credit hours of coursework and must either take the seminar in cognitive science or complete an individual or group project with a faculty mentor.

Further information on the certificate and minor requirements is available at **www.cc.gatech.edu/content/view/691/456/**.

Certificate in Modeling and Computer Simulation (MaCS)

Offered by the College of Computing, School of Aerospace Engineering, and the School of Industrial and Systems Engineering Administered by the Georgia Tech Modeling and Simulation Research and Education Center (MSREC)

Background

Modeling and simulation is an important interdisciplinary field spanning computer science and engineering. It has long been a fundamental tool in engineering and the sciences. In addition to its traditional use as a system analysis tool, the role of modeling and simulation has expanded considerably in recent years. Rapid, exponential advances in computation speeds and sophisticated graphics have enabled the widespread use of simulation to create immersive virtual environments for training and entertainment applications. Similarly, dramatic advances in computer networking and their ubiquitous deployment have given rise to distributed simulation systems spanning large geographic areas. These developments have fueled substantial growth in the modeling and simulation industry.

At present, simulation basics are normally taught within the context of a particular discipline. This limits the breadth of education in computer simulation techniques, stifling potential collaboration across different domains. In today's work environments we see interdisciplinary collaborations becoming more common, e.g., electrical, mechanical, and aerospace engineers collaborating in the design of an aircraft. Engineers are poorly equipped to apply advanced simulation technologies and methods in such multidisciplinary projects. Some of this can be attributed to not understanding the fundamental computer simulation concepts that span the different disciplines.

Moreover, fundamental skills in computer simulation are a valuable tool for individuals in almost any discipline. As simulation technology improves and interdisciplinary collaboration becomes even more prevalent, a common framework for understanding simulation concepts will ensure effective exploitation of this important technology.

Objectives

This certificate creates a coherent set of interdisciplinary graduate-level courses, providing a thorough understanding of the fundamentals of simulation. It then requires students to apply this knowledge to their personal focus of study in one domain-specific course.

Administration

The certificate is administered by the Georgia Tech Modeling and Simulation Research and Education Center (MSREC). Specifically, MSREC's education coordinator is the principal point of contact concerning the certificate program.

Certificate Structure

To receive a certificate, students must take three required courses. ISYE 6644 provides an introduction to discrete event simulation techniques. AE/ISYE 6779 provides background in dynamical systems. CS 6236 focuses on issues concerning the execution of simulation models on sequential, parallel, and distributed computing systems. Students must select one additional specialization course. Example courses fulfilling this option are enumerated below.

The prerequisites for the core courses are: graduate standing; undergraduate differential equations at the level of Math 2403; undergraduate probability and statistics at the level of Math/ISyE 3770 or ISyE 2028; and basic programming ability in C or Java.

Required Courses

1. ISYE 6644 Simulation
2. AE /ISYE 6779 Dynamic System Simulation and Modeling
3. CS 6236 Parallel and Distributed Simulation Systems

Specialization courses (Pick one)

1. AE 6042 Computational Fluid Dynamics
2. AE 6240 Numerical Methods in Structural Dynamics
3. AE 6520 Advanced Flight Dynamics
4. CEE 6513 Computational Mechanics
5. CEE 6636 Simulation Models in Transportation
6. CHE 6120 Molecular Modeling
7. CS 6230 High Performance Parallel Computing: Tools and Applications
8. CS 7496 Computer Animation
9. CS 7610 Modeling and Design

10. ME 7201 Computational Mechanics of Materials
11. ME 7601 Computational Fluid Mechanics
12. NRE 6101 Transport Fundamentals
13. ECE 6380 Introduction to Computational Electromagnetics
14. EAS 6340 Computational and Theoretical Seismology
15. ISYE 6401 Statistical Modeling and Design of Experiments
16. ISYE 7210 Real-Time Interactive Simulation

Bioengineering Programs

In response to the increased need for engineers and medical scientists with advanced training in bioengineering, Georgia Tech now offers master's and Ph.D. degrees in bioengineering. The purpose of bioengineering as a research discipline is to develop new and better physical and mathematical concepts and techniques that may be applied to problems in medicine and biology, to the development of new medical technologies, and to the organization and delivery of cost-effective healthcare. Interdisciplinary graduate programs in bioengineering are offered by the College of Computing in conjunction with the Bioengineering Center (in the Office of Interdisciplinary Programs), the College of Engineering, and the College of Sciences. The student's home unit will be the College of Computing, which, upon completion of the student's requirements, will recommend the degree. This interdisciplinary approach has been approved by the faculty in the Schools of Aerospace Engineering, Chemical and Biomolecular Engineering, Electrical and Computer Engineering, Materials Science and Engineering, Mechanical Engineering, and Polymer, Textile, and Fiber Engineering, and by the deans of the Colleges of Computing, Engineering, and Sciences.

The program is for computer science or engineering graduates who wish to pursue a degree in bioengineering rather than in a traditional field of computing or engineering, or who have done bioengineering research in other disciplines. In addition, those interested students with non-engineering backgrounds (with degrees in such fields as physics, chemistry, biology, or mathematics) who meet the admission requirements will be admitted to the program. Applications from physicians with undergraduate degrees in engineering or the physical sciences will also be considered. All applications will be processed through the Bioengineering Center.

Additional information is available at **www.bme.gatech.edu/academics/grad/bioengineering.html**.

Master of Science in Computer Science

The program for the Master of Science in Computer Science (M.S.C.S.) prepares students for more highly productive careers in industry. Graduates receive the M.S.C.S. for completing one of three options in the program as described in this section. Students may apply to the program if they possess a bachelor's degree in computer science from an accredited institution. Students without a bachelor's degree in computer science are encouraged to apply as well, with the understanding that they will be required to complete remedial coursework appropriate to their background in addition to the requirements of the M.S.C.S. degree. All applicants are evaluated according to their prior academic record, scores on the Graduate Record Examination and the Subject Test in Computer Science, a personal statement, and letters of recommendation. Applicants are selected for fall semester admission only. The application deadline is March 1. However, all applicants are encouraged to apply as early as possible because the selection process may begin well before the deadline.

The College's master's degree requirements supplement the Institute's master's requirements listed in this catalog. Students must achieve a grade point average of at least 3.0 to graduate, and no course grades below C will count toward graduation. Undergraduate courses required for the B.S.C.S. degree may not be used toward the M.S.C.S. degree. In addition, no graduate credit will be given for 3000-level courses or lower-level courses. Students must take all master's degree coursework on a letter-grade basis. The maximum total credit hours of Special Problems that may be applied toward the M.S. C.S. degree is three. Students may choose from one of three options in pursuing the M.S.C.S. degree, including:

Course option: This option requires the student to complete thirty-six hours of coursework.

Total Course Credit Hours 36
Minimum Credit Hours in CS 24
Minimum Credit Hours
(6000/8000 Level) in CS eighteen
Minimum Credit Hours
(6000/8000 Level) 24

Project option: This option requires the student to complete twenty-seven hours of coursework and a nine-hour project. The project requires approval by a faculty advisor and the M.S. program coordinator in the semester prior to its inception.

Total Credit Hours 36
M.S. Project Hours 9
Total Course Credit Hours 27
Minimum Credit Hours in CS 24*
Minimum Credit Hours
(6000/8000 Level) in CS eighteen *

Thesis option: This option requires the student to complete twenty-four hours of coursework and a twelve-hour thesis. The thesis process is defined elsewhere in this catalog.

Total Credit Hours 36
M.S. Thesis Hours 12
Total Course Credit Hours 24

Minimum Credit Hours in CS 24*
Minimum Credit Hours
(6000/8000 Level) in CS eighteen *

* May not include M.S. project or thesis hours.

All three of these options require students to complete three hours of courses in each of the core areas of Systems and Theory at the graduate level. In addition, students entering the program must demonstrate a core competency in computing equivalent to undergraduate-level courses in the following areas: systems, design and analysis of algorithms, formal languages and automata theory, databases, networking and communications, computer architecture, and human-computer interaction. This requirement can be satisfied by having taken undergraduate courses as a part of an undergraduate degree, taking remedial courses in the M.S.C.S. program, or by examination. Beyond the core requirements, students may specialize in areas of their choice. A specialization is achieved by completing at least two graduate-level courses in the selected area. Every student must complete at least one specialization as a part of his or her degree program. The current eleven specialization areas are: computer architecture, database systems, graphics and visualization, human-computer interaction, information security, intelligent systems, networking and communications, programming languages and compilers, software methodology and engineering, systems, and theoretical computer science.

A student who is enrolled in another graduate program of the Institute may pursue an M.S.C.S. while that student is also pursuing his or her degree in the other major. To be granted permission to pursue the M.S.C.S., a student must submit to the M.S. program coordinator of the College of Computing the material required for admission to the M.S.C.S. program. This includes transcripts, letters of recommendation, and GRE General Test and Computer Science Subject Test scores. If the student is approved by the College to pursue the M.S.C.S., the student will be notified in writing. At no time will a student outside the College be allowed to pursue a concurrent degree without prior permission of the M.S. program coordinator of the College of Computing.

A student enrolled in the M.S. degree program in computer science who wishes to be admitted to the Ph.D. program in computer science should apply via the same process as external students. It is expected that such a student will have at least two letters of recommendation from College of Computing faculty.

For more information about the M.S.C.S. program, visit **www.cc.gatech.edu/masters**.

Master of Science in Human-Computer Interaction

OVERVIEW

The interdisciplinary Master of Science in Human Computer Interaction (HCI) degree program is a cooperative effort of the College of Computing; the School of Literature, Communication, and Culture; and the School of Psychology. The program provides students with the practical, interdisciplinary skills and theoretical understanding they will need to become leaders in the design, implementation, and evaluation of the computer interfaces of the future.

COURSE OF STUDY

The HCI master's degree is a four-semester program consisting of a total of thirty-six semester hours. Each student will be required to complete a set of core courses, a set of area specialization courses, and a master's project. The core is divided into fixed and flexible sets of courses. Students are required to complete three courses in the fixed core and a subset of courses in the flexible core based upon their academic background. The specific courses for each student will be determined by the HCI program coordinator in consultation with the academic unit. The area specialization courses are determined by the academic unit in which the student resides. The areas of specialization are Computing; Information Design and Technology (IDT, through the School of Literature, Communication, and Culture); and Psychology.

FIXED CORE (9 hours)

CS/PSYC 6750, Human-Computer Interaction (must be taken during the first semester)
PSYC 6018, Principles of Research Design
PSYC 7101, Engineering Psychology I: Methods and Controls

FLEXIBLE CORE (12 hrs Computing and Psychology specializations; 9 hrs IDT)

All specialization courses may also be taken as part of the Flexible Core, but at least 9 hours of the Flexible Core must be taken outside your specialization. A maximum of three hours of CS 8903 may count toward the Flexible Core.

Computing

COA/CS 6763, Design of Environments COA 8901, Special Problems: Network Music
COA 8903, Special Problems: Project Studio in Music Technology
COA 8903, Special Problems: Computer Music Composition
CS 7467, Computer-Supported Collaborative Learning
CS 8803, Special Topics: Computer Audio
CS/PSYC 6795, Introduction to Cognitive Science

International Affairs

INTA 8803, Special Topics: Computers, Communications, and International Development
INTA 8803 / PUBP 8803, Special Topics: Information Technology Policy

Industrial and Systems Engineering

ISyE 6205 / AE 8803, Cognitive Engineering
ISyE 6215, Models in Human-Machine Systems

ISyE 6224, Topics in Human-Integrated Systems
ISyE 6231, Design of Human-Integrated Systems
ISyE 6413, Design and Analysis of Experiments
ISyE 6414, Statistical Modeling and Regression Analysis
ISyE 6739, Basic Statistical Methods

Literature, Communication, and Culture

LCC 6213, Educational Applications of New Media
LCC 6215, Issues in Media Studies
LCC 6314, Design of Networked Media
LCC 6315, Project Production
LCC 6316, Historical Approaches to Digital Media
LCC 6317, Interactive Fiction
LCC 6318, Experimental Media
LCC 6319, Intellectual Property Policy and Law
LCC 6320, Globalization and New Media
LCC 6321, The Architecture of Responsive Spaces
LCC 6325, Game Design and Analysis
LCC 6330, Expressive Virtual Space
LCC 6350 / ARCH 8821 / COA 8904, Spatial Constructions of Meaning
LCC 8000, Proseminar in Media Theory

Music

COA 8901, Network Music
COA 8903, Special Problems: Computer Music Composition
COA 8903, Special Problems: Music Technology Research
COA 8903, Special Problems: Project Studio in Music Technology
MUSI 4803, Special Topics: Interactive Music

Psychology

PSYC 7104, Psychomotor and Cognitive Skills
PSYC 8040, Seminar in Engineering Psychology: Assistive Technologies
PSYC 8040, Seminar in Engineering Psychology: The Psychology of HCI

Public Policy

PUBP 8803, Special Topics: The Internet and Public Policy
Certificate Option for the Flexible Core
Certificate in Management of Technology, **http://mgt.gatech.edu/programs/mba/concen_cert.html**
MGT 6056, Electronic Commerce
MGT 6057, Business Process Analysis and Design
MGT 6111, Innovation and Entrepreneurial Behavior
MGT 6165, Venture Creation
MGT 6326, Collaborative Product Development
MGT 6351, Operations Resource Planning and Execution
MGT 6353, Operations Strategy
MGT 6772, Managing Resources of the Technological Firm
MGT 8803, Special Topics in Management: Database and Customer-Relationship Marketing
MGT 8803, Special Topics in Management: Seminar on Emerging Technologies

PUBP 6401, Science, Technology, and Public Policy

COMPUTING SPECIALIZATION (11 hours)

Software (3 hours):
CS 4452, Human-Centered Computing Concepts
CS 6300, Software Development Process
CS 6452, Prototyping Interactive Systems
CS 6456, Principles of User Interface Software
CS 7470, Mobile and Ubiquitous Computing
CS 8803, Special Topics: Adaptive Personalized Information Environments
CS 8803, Special Topics: Augmented Reality Design

Design, Evaluation, and Cognitive Modeling (6 hours):

CS 6010, Principles of Design
CS 6451, Introduction to Human-Centered Computing
CS 6455, User Interface Design and Evaluation
CS 6460, Educational Technology: Conceptual Foundations
CS 6470, Design of Online Communities
CS 7450, Information Visualization
CS 7460, Collaborative Computing
CS 7610, Modeling and Design
CS/PSYC 7790, Cognitive Modeling
CS 8902, Special Problems

The remaining 2 credit hours may be taken from either section. A maximum of 3 hours of CS 8903 may count toward the Computing specialization. The master's degree requirements for students in the College of Computing supplement those of the Institute. Students must achieve a grade point average of at least 3.0 to graduate, and no course grade below C will count toward graduation.

INFORMATION DESIGN AND TECHNOLOGY (IDT) SPECIALIZATION (12 hours)

Required (may be repeated; up to 6 hours of LCC 6650 may be applied toward the specialization) LCC 6650, Project Studio (enrollment by permission of instructor)

One of the following courses, preferably taken in the first year of study:
LCC 6310, The Computer as an Expressive Medium
LCC 6311, Visual Culture and Design
LCC 6312, Design, Technology, and Representation
LCC 6313, Principles of Interactive Design

Students may fulfill the rest of the required hours with any other LCC 6000- or 8000-level course.

PSYCHOLOGY SPECIALIZATION (11 hours)

Required:
PSYC 6019, Statistical Analysis of Psychological Data I (5 hours)
PSYC 7102, Engineering Psychology II: Displays and Stressors

At least 3 hours from the following courses:

PSYC 6011, Cognitive Psychology
PSYC 6014, Sensation and Perception
PSYC 6020, Statistical Analysis of Psychological Data II (5 hours)

PROJECT (4 hours; 6 hours for students in the IDT specialization)

Each student should complete this requirement, under the supervision of a faculty member, during the last two semesters of the program. Students should also submit a brief written report to their project supervisors at the end of each semester of work, and present their work during the MS-HCI student seminar during the semester of graduation.

CS 8902, Special Problems (repeatable; variable semester hours)
or
PSYC 8903, Special Problems in HCI (repeatable; variable semester hours)

Master of Science in Information Security

The College of Computing in cooperation with the Sam Nunn School of International Affairs has established a Master of Science degree in Information Security. The program operates in conjunction with the Georgia Tech Information Security Center (GTISC), which was named a Center of Excellence in Information Assurance by the National Security Agency. The Information Security program provides students with background and insight into general knowledge issues before concentrating on either technical or policy coverage of key elements of information security. The general knowledge aspects of the program touch on the issues surrounding the impact of information security on our lives, private citizens' concern for privacy, information security risks to business and government, and the impact of laws and public policy. The technical concentration focuses on examining the general dimension of providing security for information processing systems (secure operating systems and applications, network security, cryptography, and security protocols). The policy concentration focuses on the many non-technical dimensions of information processing and security, including domestic and international policy processes, organizational routines and innovation, risk perception, industry-government relations, and the constitutional framework for governmental actions. These unique, interdisciplinary strengths of computing and policy are at the core of our program.

Course of Study

The Master of Science in Information Security is a three-semester program for a total of thirty-two semester hours. Each student is required to take a set of core courses, a practicum, and one of two concentrations (technology or policy). The core is composed of seven courses, and the concentrations are three courses tailored to the student's needs and desires, but are focused on technology or policy.

Fixed Core Courses (Twenty-three Hours)

CS 4235 (3-0-3) Introduction to Information Security
CS 6238 (3-0-3) Secure Computer Systems
CS 6260 (3-0-3) Applied Cryptography
CS 6262 (3-0-3) Network Security
CS 6265 (0-9-3) Information Security Laboratory
CS 6725 (3-0-3) Information Security Strategies and Policies
CS 8903 (5-0-5) Practicum/Project/Research

Concentration I (Technology Centric: Nine Hours)

Choose three courses from the following:

MATH 4150 (3-0-3) Introduction to Number Theory
CS 4500 (3-0-3) Theory II
CS 6210 (3-0-3) Advanced Operating Systems
CS 6250 (3-0-3) Computer Networks
CS 6269 (3-0-3) Formal Models and Methods for Information Assurance
CS 6300 (3-0-3) Software Development Process
CS 6400 (3-0-3) Database Systems Concepts and Designs
CS 7260 (3-0-3) Internetworking Architecture and Protocols

Concentration II (Policy Centric: Nine Hours)

Choose three courses from the following:

PUBP 4756 (3-0-3) Technology Forecasting and Assessment
PUBP 6401 (3-0-3) Science, Technology, and Public Policy
ECON 6150 (3-0-3) Cost and Benefit Analysis
MGT 6050 (3-0-3) Management Information Systems
MGT 6057 (3-0-3) Business Process Analysis and Design (SAP)
CIS 8680 (3-0-3) Security and Privacy of Information and Information Systems (offered by Georgia State University)

The College's master's degree requirements supplement the Institute's master's requirements listed in this catalog. Students must achieve a grade point average of at least 3.0 to graduate, and no course grade below *C* will count toward graduation.

For more information about the M.S.I.N.F.S. program, visit **www.cc.gatech.edu/msinfs**.

Master of Science in Bioengineering

Students who wish to pursue a master's degree in bioengineering may also do so through the College of Computing. The specific requirements differ from those of the computer science master's program, and while the degree is granted from the College, applications for this program are processed through the Bioengineering Center of the Office of Interdisciplinary Programs.

Additional information is available at **www.bme.gatech.edu/academics/grad/bioengineering.html**.

Ph.D. Program in Algorithms, Combinatorics, and Optimization (ACO)

The College of Computing is one of the sponsors of the multidisciplinary program in Algorithms, Combinatorics, and Optimization (ACO), an approved doctoral degree program at Georgia Tech. The other sponsoring units are the School of Industrial and Systems Engineering and the School of Mathematics. The degree program is administered by an oversight committee drawn primarily from the sponsoring units.

The study of discrete structures is a rapidly growing area in computer science, applied mathematics, and operations research, most obviously in the analysis of algorithms, combinatorics, and discrete optimization. Collaborative work among the three traditionally separate disciplines is already common. The doctorate in Algorithms, Combinatorics, and Optimization will prepare students for careers in this exciting and expanding field.

Students are expected to be well prepared in at least one of the three fields represented by the sponsoring units (computer science, mathematics, and operations research). Each student in the program is admitted through one of the three sponsoring units, which serves as the home department. Coursework is drawn from all three disciplines. The research advisor may be any member of the ACO program faculty, which is drawn from electrical and computer engineering, management, and other disciplines in addition to the three sponsoring units.

Additional details about the ACO program are available at **www.math.gatech.edu/aco**.

Doctoral Program in Bioengineering

The Bioengineering Ph.D. degree requires a thesis based on independent study of a bioengineering research topic under the guidance of a bioengineering program faculty member. It also requires thirty six hours of coursework in a mixture of bioscience, mathematics, bioengineering, traditional engineering, and elective classes.

Doctoral Program in Bioinformatics

Objective of the program

The mission of the Georgia Tech Bioinformatics Ph.D. Program is to educate and prepare graduate students to reach the forefront of leadership in the field of bioinformatics and computational biology; and to integrate research and education on the use of information technologies in biology and medicine. Thus, the program leading to a Ph.D. in Bioinformatics is an interdisciplinary program spanning a variety of academic departments at Georgia Tech.

Bioinformatics is a multidisciplinary field in which physical sciences, life sciences, computer science, and engineering are merged to solve both fundamental and applied problems in biology and medicine. The outcomes of bioinformatics and computational biology particularly include

1. new and global perspectives into the organization and function of biological systems (fundamental biology);
2. new and novel targets for drug discovery and development; and
3. genetic/proteomic profiling for pharmaco-genomics or personalized medicine.

Thus, bioinformatics is emerging as a strategic discipline at the frontier between biology, biochemistry, biomedicine, bioengineering, computer science, and mathematics, impacting fundamental science, medicine, biotechnology, and society.

With its broad mission statement, this program at Georgia Tech has the following focus / strength areas:

1. Development of software tools, algorithms, and databases for gene identification, protein structural prediction, clustering analysis, and data mining.
2. Application of bioinformatics to disease diagnosis, classification, prognosis, and treatment.
3. Application of bioinformatics to fundamental biology and systems biology.

There is an increasing demand for scientists with advanced training in bioinformatics. Professionals in this area should have a thorough knowledge of molecular biology, mathematics, and statistics as well as computer science and engineering.

In 1997 the College of Sciences at Georgia Tech proposed and established a professional Master of Science in Bioinformatics degree program, the first of its kind in the United States. This interdisciplinary program consists of a unique combination of courses. The students are taught with the equal strength in several scientific disciplines and are prepared for further successful work in industry or academy. At present there are more than 40 students in the program, with twelve graduates already employed in academy and industry, particularly at SmithKlineGlaxo, Navartis, Johnson & Johnson, Informax, Los Alamos National Lab, the Vanderbilt University, Centers for Disease Control and Prevention, etc.

Since 1993, the School of Biology at Georgia Tech has implemented a Ph.D. in Biology with concentration in Bioinformatics. This option will stay in place for those students who would like to pursue Ph.D. in Biology.

The group of prospective applicants for the Ph.D. program is expected to consist of students with a M.

S. in Bioinformatics as well as holders of B.S./B.A. and higher degrees in different disciplines. The applicants with life science degrees are usually looking for the interdisciplinary education with the focus on mathematics, physics and computer science. The demand of this sort perfectly fits what Georgia Tech can offer: high quality education in mathematics, physics and computing along with advanced courses in biology and biochemistry.

Doctoral Program In Computer Science

The computer science doctoral program begins with research and breadth components. The research component helps students place an early focus on research. Students must complete an "Introduction to Graduate Studies" course (CS 7001) and then take at least three hours of directed research study (CS 8903) under faculty guidance each semester until their qualifying examination. The breadth component is intended to facilitate students' learning about a variety of areas within computing, as well as core computer science areas. Students must take at least twelve courses from the different areas of study within the College. The current twelve areas are computer architecture, database systems, graphics and visualization, human-computer interaction, information security, intelligent systems and robotics, learning sciences and technology, networking and communications, programming languages and compilers, software methodology and engineering, systems (including operating systems, distributed and parallel systems), and theoretical computer science. Students must include courses from the systems and theory areas in those breadth courses.

As students' research progresses, they must select a primary, and possibly secondary, area of focus from the areas listed previously, and then pass a qualifier (comprehensive exam) in that area or areas. The qualifier consists of three parts:

1. A one-day written examination covering the pertinent research area(s)
2. The submission of a high-quality research deliverable, as evidenced by a portfolio consisting of at least an exam committee-reviewed and publishable article, and possibly other work products as approved by the exam committee
3. An oral presentation and examination

After successfully completing the qualifier, a student focuses on research leading toward a dissertation. The topic of the student's research is formalized through a written dissertation proposal followed by an oral presentation. When the student passes his or her proposal, the student is admitted to candidacy and proceeds with dissertation research. This phase is completed with the successful defense and submission of the approved doctoral dissertation. Students are also required to complete a nine-hour minor outside the College.

For more information about the Computer Science Ph.D. program, visit **www.cc.gatech.edu/phd**.

Doctoral Program in Human - Centered Computing (HCC)

HCC is the interdisciplinary science of designing computational artifacts that better support human endeavors. HCC students examine issues - such as computer-supported collaborative work and learning, human-computer interaction, human-robot interaction, learning sciences and technology, and mobile and ubiquitous computing - that lie at the intersection of human concerns (such as anthropology, cognitive science, human factors, industrial design, media studies, psychology, and sociology) and computing studies (such as artificial intelligence, computational perception, databases, graphics, information security, networks, programming languages, and robotics).

Students must complete a core of the three courses described below. The required courses will help students develop the first two of the four competencies that must be demonstrated; these competency areas are computing concepts and skills, evaluation of HCC systems, written research communication, and oral research communication. In consultation with their advisors, students must also complete at least three elective courses, including at least one outside the area of HCC specialization. Areas of elective study may include, but are not restricted to, artificial intelligence, cognitive science, collaboration, human-computer interaction, information security, learning sciences and technology, software, software engineering, and visualization. Students must also pass a written and oral qualifier (comprehensive examination) and submit and receive approval for a dissertation topic and committee. Students may then be admitted to candidacy.

Students begin to familiarize themselves with HCC concepts and work on HCC projects in their first required course, CS 6451, Introduction to Human-Centered Computing. In the same semester, students who need to develop skills in programming may do so by taking CS 4452, Human-Centered Computing Concepts. This class will prepare students for the second required course, CS 6452, Prototyping Interactive Systems. In their second year, students take the third required course, CS 7455, Issues in Human-Centered Computing, which delves deeply into theoretical, methodological, conceptual, and technical issues.

Concurrently, each student develops a research portfolio under the supervision of a faculty advisor. The submission of a conference- or journal-quality paper, and a conference-style presentation, satisfies the competencies of written and oral research communications.

Students are also required to complete a nine-hour minor outside the College of Computing, in accordance with Institute requirements.

For more information about the HCC program, visit **www.cc.gatech.edu/hcc**.

Certificate in Cognitive Science

Graduate students desiring to approach their graduate studies from the perspective of cognitive science are encouraged to obtain a Certificate in Cognitive Science in addition to their graduate degree. Interested students will receive their degree from one of the participating units and follow an interdisciplinary curriculum tailored to their specific interests in cognitive science.

Students enter the certificate program after being admitted to a graduate unit. Although graduate students from any unit on campus may receive a Certificate in Cognitive Science, the program is currently tailored to graduate students in the College of Computing, the School of Psychology, and the School of Industrial and Systems Engineering.

To earn the Certificate in Cognitive Science, students must fulfill their graduate requirements in some unit on campus. In addition, they must take CS/PSYC/ISYE 6795: Introduction to Cognitive Science, along with nine semesters hours of courses from the Cognitive Science Program.

Information about the graduate certificate is available at **www-static.cc.gatech.edu/cogsci/graduate_certificate.htm** or from the Cognitive Science education coordinator.

College of Engineering

College established in 1948
First engineering program in 1885
Location: 225 North Avenue
Atlanta, GA 30332-0360
Telephone: 404.894.3350
Fax: 404.894.0168
Web site: **www.coe.gatech.edu**

General Information

The College of Engineering comprises ten academic units of instruction and research. These units offer programs of study and research leading to bachelor's, master's, and doctoral degrees. Some also offer programs in one or more subdisciplines or subspecialties.

The programs in engineering are designed to provide a fundamental understanding of the engineering sciences (which are based on mathematics and the natural sciences), of the basic concepts of the humanities and social sciences, and an understanding of the manner in which these elements are interwoven in engineering practice. Each curriculum provides enough flexibility through elective course opportunities to permit a certain amount of program individualism while meeting basic requirements.

FACULTY

Dean

Don P. Giddens

Associate Deans

J. Narl Davidson, Jane C. Ammons, Raymond P. Vito

Assistant Dean

Jane G. Weyant

Director of Finance

Pete Dawkins

Director of Facilities and Capital Planning

Gregory B. Goolsby

Director of Human Resources and Administration

Lynda D. Buescher

Director of Development

Lee Williams

Courses of Instruction

Courses offered by the College of Engineering (COE) can be viewed on the **course catalog** .

MULTIDISCIPLINARY ACTIVITIES AND PROGRAMS

The College of Engineering encourages cross-unit collaboration within the College and supports the interdisciplinary culture of Georgia Tech and the merging of disciplines that is the trait of modern technology development. Engineering faculty provide leadership for such activities through their involvement in more than thirty research centers and institutes on campus.

The College also provides opportunities for engineering students to participate in interdisciplinary activities by working with faculty in the centers as research assistants, by taking part in interdisciplinary design projects and competitions, and by completing one or more of the College's multidisciplinary certificate programs.

Any student in good academic standing who is pursuing a degree in one of the participating schools of the College of Engineering or a participating school in any of the other colleges may select elective courses and the subjects of special problems to satisfy simultaneously both the requirements of his or her major degree program and those of a specialized multidisciplinary program. Upon graduation, the student receives both the degree in the major field of study and a certificate attesting to successful completion of the particular related multidisciplinary program.

The following table shows available program offerings and the degree levels of the programs.

Multidisciplinary Certificate Programs

Program	Degree Level		
Composites Engineering	B.S.	M.S.	Ph.D.
Geohydrology		M.S.	Ph.D.
Manufacturing		M.S.	Ph.D.
Mechanical Properties of Solids			Ph.D.
Polymer Engineering	B.S.	M.S.	Ph.D.
Pulp and Paper Engineering	B.S.		

GENERAL REQUIREMENTS OF UNDERGRADUATE MULTIDISCIPLINARY PROGRAMS

The specific design of the multidisciplinary program of any participating undergraduate student, while individualized, must meet certain general requirements as well as requirements that are specific to that multidisciplinary area. The general (minimum) undergraduate multidisciplinary requirements are as follows:

1. The program must relate the student's major area to the given multidisciplinary area.
2. Courses must be taken under more than one academic unit.
3. At least twelve credit hours (not required by name and number in the student's major) must be taken in a coherent program.
4. At least nine credit hours must be at the 3000 level or higher.
5. At least three credit hours must be outside the major field (crosslisted courses may be counted outside the student's major).
6. Courses must be taken on a letter-grade basis, and a *C* or better must be earned in each course counting toward a multidisciplinary certificate.

GENERAL REQUIREMENTS OF GRADUATE MULTIDISCIPLINARY PROGRAMS

The specific design of the multidisciplinary program of any participating graduate student, while individualized, must meet certain general requirements as well as requirements that are specific to that multidisciplinary area. The general (minimum) graduate multidisciplinary requirements are the same as those listed previously for the undergraduate programs, with the following exceptions:

1. at least three of the coherent multidisciplinary program courses as well as nine credit hours must be at the 6000 level or higher; and
2. students at the doctoral level must, on an individual basis, meet additional requirements specified by the student's doctoral committee, consistent with a program beyond the master's level, whose objective is to develop a doctoral-level multidisciplinary program.

Interested students may obtain detailed information on the various undergraduate-level and graduate-level multidisciplinary programs from the main office of the school in which they are enrolled.

CERTIFICATE PROCEDURES

Petitions for multidisciplinary program certificates are processed as follows:

1. During the semester in which the student expects to graduate, the student completes a Petition for Multidisciplinary Certificate form and obtains the signature of the chair of his or her school, as well as the signature of the chair of the certificate program.
2. When complete, the petition is forwarded to the Office of the Dean of Engineering.
3. At the end of the semester in which all graduation requirements have been met, the certificate will be signed by the dean of Engineering and mailed to the student.

Transfer Programs in the College of Engineering

To encourage and accommodate students who desire to study engineering, but who for various reasons may prefer to attend another college before coming to Georgia Tech, the College of Engineering offers the opportunity to transfer to Georgia Tech through the Regents’ Engineering Transfer Program (RETP) or the Dual Degree Program.

Dual Degree Program

Under the Dual Degree Program, students attend the participating Dual Degree school for three years and then come to Georgia Tech for approximately two years. Students participating in the Dual Degree Program may seek a degree from any undergraduate degree-granting program in the College of Engineering. Upon completion of the program, the student receives a bachelor's degree from the first school and a bachelor's degree in one of the engineering disciplines at Georgia Tech.

Participating in the Dual Degree Program are many of the schools in the University System of Georgia, Morehouse College, Spelman College, Clark Atlanta University, and other traditionally black colleges and predominantly women's colleges in the Southeast. For additional information on either of these programs, contact the College of Engineering at Georgia Tech or the RETP or Dual Degree coordinator at a participating RETP or Dual Degree institution.

Transfer Programs in the College of Engineering

To encourage and accommodate students who desire to study engineering, but who for various reasons may prefer to attend another college before coming to Georgia Tech, the College of Engineering offers the opportunity to transfer to Georgia Tech through the Regents' Engineering Transfer Program (RETP) or the Dual Degree Program.

Regents' Engineering Transfer Program

The RETP is a cooperative program between Georgia Tech and fourteen colleges in the University System of Georgia:

Albany State University
Armstrong Atlantic State University
Columbus State University
Dalton State College
Gainesville College
Georgia Perimeter College
Georgia Southern University
Macon State College
Middle Georgia College
North Georgia College and State University
Savannah State University
Southern Polytechnic State University
State University of West Georgia
Valdosta State University

For the first two years, students in this program attend one of the participating institutions, where they take all of the mathematics and science and many of the engineering courses required in the first two years of the Georgia Tech engineering curricula. Upon successful completion of the RETP requirements at the RETP institution, students are admitted to Georgia Tech to work toward completion of a bachelor of science in engineering degree.

By enrolling in RETP, students may attend a college close to home, thereby decreasing the cost of their education and easing the adjustment to college life. At the same time, RETP students enjoy many of the advantages of Tech students: they have equal access to engineering majors at Tech, they can participate in the Co-op Program, and they are invited to the Tech campus once a year for campus tours, information sessions, and meetings with advisors in their engineering major.

College of Engineering - Degrees and Programs Offered

College of Engineering

SCHOOL OF AEROSPACE ENGINEERING

- Bachelor of Science in Aerospace Engineering
- Bachelor of Science in Aerospace Engineering - Int'l Designator Option #1
- Bachelor of Science in Aerospace Engineering - Int'l Designator Option #2
- B.S./M.S.A.E.(Five-year)
- Master of Science in Aerospace Engineering
- Master of Science with a Major in Aerospace Engineering
- Doctor of Philosophy with a Major in Aerospace Engineering

SCHOOL OF CHEMICAL AND BIOMOLECULAR ENGINEERING

- Bachelor of Science in Chemical & Biomolecular Engineering
- Bachelor of Science in Chemical & Biomolecular Engineering - Biotechnology Option
- Bachelor of Science in Chemical & Biomolecular Engineering - Research Option
- B.S./M.S.C.H.B.E. (Five-year)
- Master of Science in Bioengineering
- Master of Science in Chemical Engineering
- Master of Science with a Major in Chemical Engineering
- Master of Science in Paper Science and Engineering
- Master of Science in Polymers
- Doctor of Philosophy with a Major in Bioengineering
- Doctor of Philosophy with a Major in Chemical Engineering
- Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF CIVIL & ENVIRONMENTAL ENGINEERING

- Bachelor of Science in Civil Engineering
- Bachelor of Science in Civil Engineering - Int'l Designator
- Bachelor of Science in Environmental Engineering
- B.S./M.S.C.E. (Five-year)
- Master of Science in Civil Engineering
- Master of Science in Engineering Science and Mechanics
- Master of Science in Environmental Engineering
- Master of Science with a Major in Civil Engineering

- Master of Science with a Major in Environmental Engineering
- Doctor of Philosophy with a Major in Bioengineering
- Doctor of Philosophy with a Major in Civil Engineering
- Doctor of Philosophy with a Major in Engineering Science and Mechanics
- Doctor of Philosophy with a Major in Environmental Engineering

SCHOOL OF ELECTRICAL & COMPUTER ENGINEERING

- Bachelor of Science in Computer Engineering
- Bachelor of Science in Computer Engineering - Int'l Designator
- Bachelor of Science in Computer Engineering - Research Option
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Electrical Engineering - Int'l Designator
- Bachelor of Science in Electrical Engineering - Research Option
- Bachelor of Science with a Major in Electrical Engineering
- B.S./M.S.E.C.E. (Five-year)
- Dual M.S.E.C.E. with Shanghai Jiao Tong University (SJTU)
- Master of Science in Bioengineering
- Master of Science with a Major in Electrical and Computer Engineering
- Doctor of Philosophy with a Major in Electrical and Computer Engineering
- Doctor of Philosophy with a Major in Bioengineering

GT/EMORY DEPARTMENT OF BIOMEDICAL ENGINEERING

- Bachelor of Science in Biomedical Engineering
- Bachelor of Science in Biomedical Engineering - Int'l Designator
- Master of Science in Bioengineering
- Doctor of Philosophy with a Major in Bioengineering
- Doctor of Philosophy with a Major in Bioinformatics
- Doctor of Philosophy with a Major in Biomedical Engineering

SCHOOL OF INDUSTRIAL & SYSTEMS ENGINEERING

- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Industrial Engineering - Int'l Designator
- Master of Science in Health Systems
- Master of Science in Industrial Engineering
- Master of Science in International Logistics
- Master of Science in Operations Research
- Master of Science in Quantitative and Computational Finance

- Master of Science in Statistics
- Master of Science with a Major in Industrial Engineering - Human Integrated Systems Track
- Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization
- Doctor of Philosophy with a Major in Bioinformatics
- Doctor of Philosophy with a Major in Industrial Engineering - Optimization Track
- Doctor of Philosophy with a Major in Industrial Engineering - Stochastic Systems Track
- Doctor of Philosophy with a Major in Industrial Engineering - Manufacturing / Logistics Track
- Doctor of Philosophy with a Major in Industrial Engineering - Economic Decision Analysis Track
- Doctor of Philosophy with a Major in Industrial Engineering - Applied Statistics Track
- Doctor of Philosophy with a Major in Industrial Engineering - Human-Integrated Systems Track

SCHOOL OF MATERIALS SCIENCE & ENGINEERING

- Bachelor of Science in Materials Science and Engineering
- Bachelor of Science in Materials Science and Engineering - Research Option
- B.S./M.S.M.S.E. (Five-year)
- Master of Science in Materials Science and Engineering
- Master of Science in Paper Science and Engineering
- Master of Science in Bioengineering
- Master of Science in Polymers
- Master of Science with a Major in Materials Science and Engineering
- Doctor of Philosophy with a Major in Materials Science and Engineering
- Doctor of Philosophy with a Major in Paper Science and Engineering
- Doctor of Philosophy with a Major in Bioengineering

SCHOOL OF MECHANICAL ENGINEERING

- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Mechanical Engineering - Int'l Designator
- Bachelor of Science in Nuclear and Radiological Engineering
- Master of Science in Bioengineering
- Master of Science in Mechanical Engineering
- Master of Science in Medical Physics
- Master of Science in Nuclear Engineering
- Master of Science in Paper Science and Engineering
- Doctor of Philosophy with a Major in Bioengineering
- Doctor of Philosophy with a Major in Mechanical Engineering
- Doctor of Philosophy with a Major in Nuclear and Radiological Engineering

Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF POLYMER, TEXTILE & FIBER ENGINEERING

Bachelor of Science in Polymer and Fiber Engineering - Fiber Track

Bachelor of Science in Polymer and Fiber Engineering - Polymer Track

B.S./M.S.P.T.F.E. (Five-year)

Master of Science with a Major in Polymers

Master of Science in Polymers - Polymers Material Science Track

Master of Science in Polymers - Polymer Chemistry Track

Doctor of Philosophy with a Major in Textile Engineering - Polymer Materials Science Track

Doctor of Philosophy with a Major in Textile Engineering - Polymer Chemistry Track

Undeclared Engineering Students - General Information

College of Engineering
Dean's Office
Location: Tech Tower, Third Floor
Web site: **www.coe.gatech.edu/students/currentundergrad/uec/**

First-year students entering the College of Engineering may choose a specific engineering major or remain undeclared until they determine which Georgia Tech major best fits their interests and goals. It is recommended that students select a major by the end of the first year, but the selection must be made before completion of sixty credit hours. Until a student has chosen a major, course schedules should be planned using the following list of courses, which are common to all engineering majors.

UNDECLARED ENGINEERING STUDENTS - SUGGESTED SCHEDULE

SUGGESTED 1ST YEAR SCHEDULE - FIRST SEMESTER	**HRS**
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	4
CHEM 1310 GENERAL CHEMISTRY	3
CS 1371 COMPUTING FOR ENGINEERS	3
GT 1000 FRESHMAN SEMINAR	1
TOTAL SEMESTER HOURS =	**15**

SUGGESTED 1ST YEAR SCHEDULE - SECOND SEMESTER	**HRS**
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	4
PHYS 2211 INTRODUCTORY PHYSICS I	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

Guggenheim School of Aerospace Engineering

Daniel Guggenheim School of Aeronautics
Established in 1930
Location: Montgomery Knight Building
Telephone: 404.894.3000
Fax: 404.894.2760
Web site: **www.ae.gatech.edu**

General Information

The Guggenheim School of Aerospace Engineering prepares students at the bachelor's, master's, and doctoral levels for a career in vehicle engineering, with primary emphasis on flight vehicles. A combined B.S./M.S. honors program is also offered that prepares students for graduate studies and research (**http://www.ae.gatech.edu/undergraduate/semester/honors/index.html**). In addition, the school offers a minor with six different tracks. The school is housed in five buildings with a total floor space of approximately 122,000 square feet, most of which is devoted to instructional and research laboratories. Additional information can be found at **www.ae.gatech.edu**.

Faculty

Chair and William R. T. Oakes Professor
Robert G. Loewy

Associate Chair for Graduate Programs and Research and Professor
Jechiel I. Jagoda

Associate Chair for Undergraduate Programs and Regents' Professor
Lakshmi N. Sankar

David S. Lewis Professor and Regents' Professor
Ben T. Zinn

Dutton/Ducoffe Professor of Aerospace Software Engineering
Eric M. Feron

Boeing Professor of Advanced Aerospace Systems Analysis
Dimitri Mavris

Langley Professor
Alan W. Wilhite

David and Andrew Lewis Associate Professor of Space Technology
Robert D. Braun

Sikorsky Associate Professor in Rotorcraft Technology
Mark Costello

David S. Lewis Associate Professor of Cognitive Engineering
Amy R. Pritchett

Lockheed Martin Assistant Professor of Avionics Integration
Eric N. Johnson

Regents' Professors Emeriti
Robin B. Gray, Edward W. Price

Professors
K. K. Ahuja (joint, GTRI), Erian A. Armanios, Olivier A. Bauchau, Anthony J. Calise, James I. Craig, Don Giddens (joint, BME), Wassim M. Haddad, Sathyanarayana V. Hanagud, Dewey H. Hodges, John W. Holmes, George A. Kardomateas, Narayanan M. Komerath, Suresh Menon, J. V. R. Prasad, Daniel P. Schrage, Panagiotis Tsiotras, P. K. Yeung

Professors Emeriti
Robert L. Carlson, James E. Hubbartt, Manohar P. Kamat, David J. McGill (joint, CEE), Howard M. McMahon, G. Alvin Pierce, James C. Wu

Associate Professors
John-Paul Clarke, Timothy C. Lieuwen, John R. Olds, Stephen M. Ruffin, Jerry M. Seitzman, Marilyn J. Smith

Assistant Professors
Massimo Ruzzene, Mitchell L. R. Walker

Adjunct Professors
David A. Peters, Robert L. Sierakowski

Adjunct Associate Professor
Carlo Bottasso

Principal Research Engineers

Yedidia Neumeir, Douglas O. Stanley

Senior Research Engineers

R. Dale Atkins, Eugene Lubarsky, Andrew V. Makeev, R. Wayne Pickell, Vitali Volovoi

Senior Research Scientist

Bruce A. Fryxell

Research Engineers II

Byung Ho Ahn, Hongmei Chen, Jou-Young Choi, Russell K. Denney, Elena Garcia, Peter M. Hollingsworth, Jeong Hur, Michelle R. Kirby, Ralph L. Latham, Zhimin Liu, Jan W. Osburg, David E. Scarborough, Danielle S. Soban, Jimmy C. Tai, Neil R. Weston

Research Scientist II

Oleksandr Bibik

Research Engineers I

Adam T. Broughton, Cecile M. Burg, Henrik B. Christophersen, Kristin M. Kelly, Andrew J. Meyers, Reid W. Thomas

Research Scientist I

Christie M. Maldonado

Systems Analyst III

William Meyer

Bachelor of Science in Aerospace Engineering

The first two years focus on coursework in the areas of chemistry, mathematics, physics, humanities, social sciences, and general engineering sciences. The third and fourth years emphasize aerospace disciplines and vehicle systems integration. The undergraduate curriculum is designed to provide each student with a general background for either employment in industry or government laboratories, or advanced study in graduate school at the end of four years. The program stresses the theoretical, experimental, and design aspects of aerospace engineering. Courses do not have to be taken during the specific semester indicated in the curriculum, but all prerequisites must be satisfied for each course. Advisement by an assigned faculty member is required before registration. Each student is assigned a faculty advisor who remains the same for the full undergraduate program, unless the student requests a change. A certain degree of specialization is available to undergraduate students through the proper choice of electives, as are opportunities for undergraduate research, depending on the student's abilities and career objectives. Students should consult with academic advisors for the availability of courses and recommended course sequences.

Educational Objectives

The undergraduate aerospace engineering degree program will:

1. provide students with a comprehensive education that includes in-depth instruction in aerodynamics, aircraft and spacecraft structures (including structural dynamics and aeroelasticity), flight and orbital mechanics and controls, and design of aerospace systems;
2. prepare students for careers in aerospace engineering by emphasizing aerospace vehicle, analysis, and problem solving, by providing methods to deal with open-ended problems and design, including costs, manufacturing, and maintenance, and by fostering teamwork, communication skills, and individual professionalism; and
3. provide adequate research and independent study opportunities that cultivate lifelong learning skills and nourish creative talents.

Requirements

A grade of *C* or better is required in each 1000- and 2000-level mathematics and physics course; a course with a *D* or *F* grade must be repeated the next semester the student is in residence. A 2.0 or higher overall grade point average is required to schedule COE 2001 or AE 2020. No more than two *D* grades are permitted in AE and COE courses listed by number in the sophomore, junior, and senior years. Courses in which a D was earned may be repeated at any time with the approval of an advisor.

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Aerospace Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
AE 1350 INTRODUCTION TO AEROSPACE ENGINEERING	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
COE 2001 STATICS	2
AE 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
AE 2020 LOW SPEED AERODYNAMICS	3
AE 2220 DYNAMICS	3
TECHNICAL ELECTIVE(S)	3
ECON 2100 or 2105 or 2106	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
AE 3515 SYSTEM DYNAMICS & CONTROL	4
AE 3450 THERMODYNAMICS & COMPRESSIBLE FLOW	3
AE 3310 INTRODUCTION TO AEROSPACE VEHICLE PERFORMANCE	3
COE 3001 DEFORMABLE BODIES	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
ECE 3710 CIRCUITS & ELECTRONICS	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
AE 3125 AEROSPACE STRUCTURAL ANALYSIS	4
AE 3521 FLIGHT DYNAMICS	4
HUMANITIES ELECTIVE(S)	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
AE 4451 JET & ROCKET PROPULSION	3
AE 3051 EXPERIMENTAL FLUID DYNAMICS	2
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-FALL	HRS
HUMANITIES ELECTIVE(S)	3
AE 4350 DESIGN PROJECT I or 4356 SPACE SYSTEMS DESIGN PROJECT I	3

AE 3021 HIGH SPEED AERODYNAMICS	3
AE 3145 STRUCTURES LAB	1
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	**HRS**
AE 4220 AEROELASTICITY	3
AE 4351 DESIGN PROJECT II or AE 4357 SPACE SYSTEMS DESIGN PROJECT II	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	6
AE 4525 CONTROL SYSTEMS DESIGN LAB	2
TOTAL SEMESTER HOURS =	**17**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement. Courses taken in humanities and social sciences must be scheduled on a letter-grade basis.

Technical Elective

The science elective must be chosen from a list of approved courses, including a computer science offering. These are listed at **www.ae.gatech.edu/undergraduate**.

Free Electives

The required ten credit hours of free electives may be taken at any time during the course of study. If ROTC is elected, four credit hours of basic and six hours of advanced ROTC may be applied toward these electives. HPS 1040 cannot be applied toward the free electives. Only the free electives may be taken on a pass/fail basis. Further details on the undergraduate program are available at **www.ae.gatech.edu/undergraduate**.

Requirements

A *C* or better is required in each 1000- and 2000-level mathematics and physics course; a course with a *D* or *F* grade must be repeated the next semester the student is in residence. A 2.0 overall average or better is required to schedule COE 2001or AE 2020. No more than two *D* grades are permitted in AE and COE courses listed by number in the sophomore, junior, and senior years. Courses in which a D was earned may be repeated at any time with the approval of an advisor.

Bachelor of Science in Aerospace Engineering - International Plan #1

The International Plan is a challenging and coherent academic program for undergraduates emphasizing global competence within the context of the aerospace engineering major. This program has specific language requirements. There are also coursework requirements related to history, global economy, international culture, and residential foreign experience. Refer to **http://www.oie.gatech.edu/internationalplan/student/** for the general requirements of the International Plan. These requirements may be satisfied by carefully selecting the humanities, social sciences, and free elective hours available in the program, in consultation with a faculty advisor.

Educational Objectives

The B.S. AE International Plan program will:

1. provide students with a comprehensive education that includes in-depth instruction in aerodynamics, aircraft and spacecraft structures (including structural dynamics and aeroelasticity), flight and orbital mechanics and controls, and design of aerospace systems;
2. prepare students for careers in aerospace engineering by emphasizing aerospace vehicles analysis, and problem solving, by providing methods to deal with open-ended problems and design, including costs, manufacturing, maintenance, and by fostering teamwork, communication skills, and individual professionalism;
3. provide adequate research and independent study opportunities that cultivate lifelong learning skills and nourish creative talents; and
4. prepare students for aerospace careers related to a country or region of their choice.

Requirements

A grade of *C* or better is required in each 1000- and 2000-level mathematics and physics course; a course with a *D* or *F* grade must be repeated the next semester the student is in residence. A 2.0 or higher overall grade point average is required to schedule COE 2001 or AE 2020. No more than two *D* grades are permitted in AE and COE courses listed by number in the sophomore, junior, and senior years. Courses in which a D was earned may be repeated at any time with the approval of an advisor.

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING
WITH "INTERNATIONAL PLAN" DESIGNATOR-OPTION #1
2006-2007 DEGREE REQUIREMENTS
School Of Aerospace Engineering

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
LANGUAGE I	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
LANGUAGE II	3
AE 1350 INTRODUCTION TO AEROSPACE ENGINEERING	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
COE 2001 STATICS	2
LANGUAGE III	3
AE 2020 LOW SPEED AERODYNAMICS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
AE 2220 DYNAMICS	3
LANGUAGE IV	3
AE 3450 THERMODYNAMICS & COMPRESSIBLE FLOW	3
COE 3001 DEFORMABLE BODIES	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR- FALL * (ABROAD) *	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
FREE ELECTIVE(S)	4
GLOBAL ECONOMICS ELECTIVE	3
ECE 3710 CIRCUITS & ELECTRONICS	2
TOTAL SEMESTER HOURS =	**13**

THIRD YEAR- SPRING * (ABROAD) *	HRS
SCIENCE ELECTIVE(S)	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
COUNTRY or REGIONAL ELECTIVE	3
INTERNATIONAL RELATIONS ELECTIVE	3
TOTAL SEMESTER HOURS =	**13**

SUMMER	HRS
AE 3310 INTRODUCTION TO AEROSPACE VEHICLE PERFORMANCE	3

AE 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
AE 3515 SYSTEM DYNAMICS & CONTROL	4
AE 3021 HIGH SPEED AERODYNAMICS	3
TOTAL SEMESTER HOURS =	**13**

FOURTH YEAR-FALL	**HRS**
AE 3125 AEROSPACE STRUCTURAL ANALYSIS	4
AE 3145 STRUCTURES LAB	1
AE 3521 FLIGHT DYNAMICS	4
AE 4350 DESIGN PROJECT I or AE 4356 SPACE SYSTEMS DESIGN PROJECT I	3
AE 4451 JET & ROCKET PROPULSION	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
AE 4220 AEROELASTICITY	3
AE 4351 DESIGN PROJECT II or AE 4357 SPACE SYSTEMS DESIGN PROJECT II (CULMINATING INT'L PLAN COURSE)	3
AE 4525 CONTROL SYSTEMS DESIGN LAB	2
AE 3051 EXPERIMENTAL FLUID DYNAMICS	2
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

BACHELOR OF SCIENCE IN AEROSPACE ENGINEERING
WITH "INTERNATIONAL PLAN" DESIGNATOR-OPTION #2
2006-2007 DEGREE REQUIREMENTS
School Of Aerospace Engineering

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	**HRS**
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
LANGUAGE I	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	**HRS**
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
WELLNESS	2
LANGUAGE II	3
AE 1350 INTRODUCTION TO AEROSPACE ENGINEERING	2
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-FALL	**HRS**
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
COE 2001 STATICS	2
LANGUAGE III	3
AE 2020 LOW SPEED AERODYNAMICS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	**HRS**
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
AE 2220 DYNAMICS	3
LANGUAGE IV	3
AE 3450 THERMODYNAMICS & COMPRESSIBLE FLOW	3
ECE 3710 CIRCUITS & ELECTRONICS	2
MATH 2403 DIFFERENTIAL EQUATIONS	4
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-FALL	**HRS**
AE 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
AE 3021 HIGH SPEED AERODYNAMICS	3
AE 3310 INTRODUCTION TO AEROSPACE VEHICLE PERFORMANCE	3
AE 3515 SYSTEM DYNAMICS & CONTROL	4
COE 3001 DEFORMABLE BODIES	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
TOTAL SEMESTER HOURS =	**17**

Summer Term: Internship Abroad

THIRD YEAR SPRING * (ABROAD) *	**HRS**
SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	4
GLOBAL ECONOMICS ELECTIVE	3
INTERNATIONAL RELATIONS ELECTIVE	3

COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
AE 3125 AEROSPACE STRUCTURAL ANALYSIS	4
AE 3145 STRUCTURES LAB	1
AE 3521 FLIGHT DYNAMICS	4
AE 4350 DESIGN PROJECT I or AE 4356 SPACE SYSTEMS DESIGN PROJECT I	3
AE 4451 JET & ROCKET PROPULSION	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
AE 3051 EXPERIMENTAL FLUID DYNAMICS	2
AE 4220 AEROELASTICITY	3
AE 4351 DESIGN PROJECT II or AE 4357 SPACE SYSTEMS DESIGN PROJECT II (CULMINATING INT'L PLAN COURSE)	3
AE 4525 CONTROL SYSTEMS DESIGN LAB	2
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science in Aerospace Engineering - International Plan #2

The International Plan is a challenging and coherent academic program for undergraduates emphasizing global competence within the context of the aerospace engineering major. This program has specific language requirements. There are also coursework requirements related to history, global economy, international culture, and residential foreign experience. Refer to **http://www.oie.gatech.edu/internationalplan/student/** for the general requirements of the International Plan. These requirements may be satisfied by carefully selecting the humanities, social sciences, and free elective hours available in the program, in consultation with a faculty advisor.

Educational Objectives

The B.S. AE International Plan program will:

1. provide students with a comprehensive education that includes in-depth instruction in aerodynamics, aircraft and spacecraft structures (including structural dynamics and aeroelasticity), flight and orbital mechanics and controls, and design of aerospace systems;
2. prepare students for careers in aerospace engineering by emphasizing aerospace vehicles analysis, and problem solving, by providing methods to deal with open-ended problems and design, including costs, manufacturing, maintenance, and by fostering teamwork, communication skills, and individual professionalism;
3. provide adequate research and independent study opportunities that cultivate lifelong learning skills and nourish creative talents; and
4. prepare students for aerospace careers related to a country or region of their choice.

Requirements

A grade of *C* or better is required in each 1000- and 2000-level mathematics and physics course; a course with a *D* or *F* grade must be repeated the next semester the student is in residence. A 2.0 or higher overall grade point average is required to schedule COE 2001 or AE 2020. No more than two *D* grades are permitted in AE and COE courses listed by number in the sophomore, junior, and senior years. Courses in which a D was earned may be repeated at any time with the approval of an advisor.

B.S./M.S. Honors Program

A combined B.S./M.S. honors program is also offered that prepares students for graduate studies and research. Please see **www.ae.gatech.edu/undergraduate/semester/honors/index.html** for more information.

Minors

The School of Aerospace Engineering offers a minor with six different tracks.

1. Aeroelasticity
2. Aerodynamics
3. Avionics
4. Flight Dynamics and Control
5. Propulsion
6. Structures

For more information please visit **www.ae.gatech.edu/undergraduate/AE_Minor.html**.

Master of Science in Aerospace Engineering

At the graduate level, the School of Aerospace Engineering offers master's and doctoral degrees. In addition, the School offers a distance learning-based master's degree.

The master's degree may be earned by completing thirty-three semester hours of coursework, which must include three hours of Special Problems research credit. Alternatively, the candidate may elect to complete twenty-four semester hours of coursework along with nine hours of M.S. thesis work. The candidate must propose a thesis topic, complete the thesis, and successfully defend it before being awarded the degree. A GPA of 2.7 is required to graduate with an M.S. degree. All coursework, including Special Problems, must be taken on a letter-grade basis. The program of study for the master's degree is very flexible and can be tailored, in agreement with the student's advisor, to meet the candidate's professional goals.

For further details governing the graduate program, access the *Aerospace Engineering Graduate Handbook* at **www.ae.gatech.edu/graduate**. Graduate students may specialize in the following areas: aerodynamics and fluid mechanics, aeroelasticity and structural dynamics, flight mechanics and control, propulsion and combustion, structural mechanics and materials behavior, and system design and optimization. Further information on these areas of specialization and research can be found at **www.ae.gatech.edu/research**.

Master of Science with a Major in Aerospace Engineering

At the graduate level, the School of Aerospace Engineering offers master's and doctoral degrees. In addition, the School offers a distance learning-based master's degree.

The master's degree may be earned by completing thirty-three semester hours of coursework, which must include three hours of Special Problems research credit. Alternatively, the candidate may elect to complete twenty-four semester hours of coursework along with nine hours of M.S. thesis work. The candidate must propose a thesis topic, complete the thesis, and successfully defend it before being awarded the degree. A GPA of 2.7 is required to graduate with an M.S. degree. All coursework, including Special Problems, must be taken on a letter-grade basis. The program of study for the master's degree is very flexible and can be tailored, in agreement with the student's advisor, to meet the candidate's professional goals.

For further details governing the graduate program, access the *Aerospace Engineering Graduate Handbook* at **www.ae.gatech.edu/graduate**. Graduate students may specialize in the following areas: aerodynamics and fluid mechanics, aeroelasticity and structural dynamics, flight mechanics and control, propulsion and combustion, structural mechanics and materials behavior, and system design and optimization. Further information on these areas of specialization and research can be found at **www.ae.gatech.edu/research**.

B.S./M.S. Honors Program

A combined B.S./M.S. honors program is also offered that prepares students for graduate studies and research. Please see **www.ae.gatech.edu/undergraduate/semester/honors/index.html** for more information.

Ph.D. in Aerospace Engineering

The School of Aerospace Engineering offers a doctoral degree. The Ph.D. degree is a research degree.

The degree requires fifty semester hours of coursework beyond the bachelor's degree; however, the main emphasis is on the research leading to a Ph.D. dissertation. The candidate must pass a qualifying examination and present a thesis proposal and a thesis defense. A GPA of 3.25 is required to graduate with a Ph.D. degree. All coursework, including Special Problems, must be taken on a letter-grade basis. The programs of study for both the master's and doctoral degrees are very flexible and can be tailored, in agreement with the student's advisor, to meet the candidate's professional goals.

For further details governing the graduate program, access the *Aerospace Engineering Graduate Handbook* at **www.ae.gatech.edu/graduate**. Graduate students may specialize in the following areas: aerodynamics and fluid mechanics, aeroelasticity and structural dynamics, flight mechanics and control, propulsion and combustion, structural mechanics and materials behavior, and system design and optimization. Further information on these areas of specialization and research can be found at **www.ae.gatech.edu/research**.

Certificate Program in Remote Sensing

Students completing the master's degree or doctoral degree requirements of the School may earn a Remote Sensing Certificate. Additional details can be found in this catalog at **www.catalog.gatech.edu/colleges/cos/eas/grad/certificates.php**.

Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University

Established in 1997
Location: U. A. Whitaker Building
Telephone: 404.385.0124
Fax: 404.894.4243
Web site: **www.bme.gatech.edu**

General Information

Biomedical engineering is the interdisciplinary field of study combining engineering with life sciences. The role of the biomedical engineer is to provide answers to problems arising from the study of living systems by employing the methodology and principles of engineering. This activity may encompass the spectrum from direct clinical applications to long-range fundamental research.

The Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University (the Coulter Department) is a unique partnership between a public institution and a private university. The formation of the Department in 1997 was the culmination of collaborative efforts between the two institutions in the field of biomedical engineering that dated back to the 1980s. In 2000, the Department assumed the name of Wallace H. Coulter, recognized as one of the most influential engineers in the twentieth century through his entrepreneurial efforts in shaping the fields of automated cell analysis and hematology.

The Coulter Department has identified five thrust areas in which to focus research and educational programs: cardiovascular biomechanics and biology, cellular and biomolecular engineering, neuroengineering, biomedical imaging and informatics, and biomaterials and tissue engineering. Research in these biomedical engineering thrust areas can result in major breakthroughs in medicine, basic science, and applied technology.

The true integration of the life sciences and engineering is essential in educating a substantial percentage of the next generation of biomedical engineers in order to benefit from the biological revolution and its applications to medicine. The Coulter Department offers both undergraduate and graduate degree programs that attract outstanding students who wish to have that integration in their education so that they may be equipped with the tools to be the leaders in this field in the twenty-first century.

FACULTY

Cecil J. "Pete" Silas Chair and School Chair
Ronald W. Rousseau

Associate Chair and Professor
Sue A. Bidstrup Allen

Associate Chair and Professor
F. Joseph Schork

Associate Chair and Regents' Professor
Amyn S. Teja

J. Erskine Love Institute Chair in Engineering
Charles A. Eckert

William W. LaRoche Chair
Dennis W. Hess

Roberto C. Goizueta GRA Chair
William J. Koros

Wallace H. Coulter Chair
Ajit Yoganathan

Joseph M. Pettit Professor and Regents' Professor
Mark Allen

Regents' Professors
Paul A. Kohl, Charles L. Liotta

Professors
Sujit Banerjee, Andreas Bommarius, Jeff Empie, W. James Frederick, Thomas Fuller, Jeffrey S. Hsieh, Jay Lee, John D. Muzzy, Athanassios Sambanis

Professors Emeriti
William R. Ernst, Charles W. Gorton, John E. Husted, Michael Matteson, Clyde Orr Jr., Gary Poehlein, Ronnie S. Roberts, Robert J. Samuels, A. H. Peter Skelland, Jude T. Sommerfeld, Arnold F. Stancell, Henderson C. Ward, Jack Winnick

Associate Professors
Pradeep K. Agrawal, Rachel Chen, Yulin Deng, Larry J. Forney, Clifford Henderson, Christopher Jones, Peter Ludovice, Carson Meredith, Mark Prausnitz, Matthew Realff, Daniel W. Tedder

Assistant Professors
Victor Breedveld, Martha Gallivan, Hang Lu, Sankar Nair, Athanasios Nenes

Adjunct Professors
Yaman Arkun, Charlene W. Bayer, Elliott L. Chaikof

Bachelor of Science in Biomedical Engineering

The Coulter Department offers a B.S. degree conferred by Georgia Tech. The program strives to produce graduates who are expected to demonstrate the following during the first few years after graduation:

1. Mathematics, science, and engineering fundamental expertise at the interface of engineering and the life sciences, which enables them to take leadership roles in the ever-expanding field of biomedical engineering
2. An ability to use their multidisciplinary background to foster communication across professional and disciplinary boundaries with the highest professional and ethical standards
3. The ability to recognize the limits of their knowledge and initiate self-directed learning opportunities to be able to continue to identify and create professional opportunities for themselves in the field of biomedical engineering
4. By the time of graduation from the program, the students will have obtained
5. an ability to identify, formulate, analyze, model, and solve real-world biomedical engineering problems by integrating and applying basic principles of mathematics, life sciences, and engineering;
6. an ability to use modern science and engineering techniques, skills, and computational tools to support biomedical engineering analysis, modeling, problem solving, and design;
7. an ability to meet the desired needs of a client by designing a biomedical engineering system, component, or process;
8. an ability to design and conduct experiments as well as to measure, analyze, and interpret experimental data from living systems;
9. an ability to communicate effectively in both written reports and oral presentations;
10. an ability to function effectively within multidisciplinary teams;
11. a broad education necessary for professional practice in biomedical engineering;
12. an understanding of how ethical, social, and professional responsibilities impact the practice of biomedical engineering;
13. an ability to recognize the limits of their knowledge and engage in self-directed learning;
14. a knowledge of contemporary issues and challenges facing biomedical engineers; and

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Biomedical Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
ENGL 1101 ENGLISH COMPOSITION I	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1315 SURVEY OF ORGANIC CHEMISTRY	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
BMED 1300 PROBLEMS IN BIOMEDICAL ENGINEERING I	3
ENGL 1102 ENGLISH COMPOSITION II	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
CHEM 3511 SURVEY OF BIOCHEMISTRY	3
PHYS 2212 INTRODUCTORY PHYSICS II	4
CS 1371 COMPUTING FOR ENGINEERS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
BMED 2210 CONSERVATION PRINCIPALS IN BMED	4
COE 2001 STATICS	2
ECE 3710 CIRCUITS & ELECTRONICS	2
BMED 2300 PROBLEMS IN BIOMEDICAL ENGINEERING II	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
BMED 3160 SYSTEMS PHYSIOLOGY I	4
BMED 3400 INTRODUCTION TO BIOMECHANICS	4
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
CEE / MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
BMED 3500 BIOMEDICAL SENSORS & INSTRUMENTATION	3
BMED 3161 SYSTEMS PHYSIOLOGY II	4
BMED 3300 BIOTRANSPORT	4
HUMANITIES ELECTIVE(S)	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
BMED 4600 SENIOR DESIGN PROJECT I	2
BME TECHNICAL ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3

FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	**HRS**
BMED 4601 SENIOR DESIGN PROJECT II	3
BME TECHNICAL ELECTIVE(S)	3
ECON 2100 or 2105 or 2106	3
HUMANITIES / SOCIAL SCIENCE ELECTIVE(S)	6
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**17**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

The biomedical engineering curriculum includes thirty semester hours of electives, subject to the following requirements:

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

BME Technical Electives

Nine hours: refer to **www.bme.gatech.edu/programs/bs_deg_telect.shtml** for a list of approved courses.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Bachelor of Science in Biomedical Engineering - International Plan

The program strives to produce graduates who are expected to demonstrate the following during the first few years after graduation:

1. Mathematics, science, and engineering fundamental expertise at the interface of engineering and the life sciences, which enables them to take leadership roles in the ever-expanding field of biomedical engineering
2. An ability to use their multidisciplinary background to foster communication across professional and disciplinary boundaries with the highest professional and ethical standards
3. The ability to recognize the limits of their knowledge and initiate self-directed learning opportunities to be able to continue to identify and create professional opportunities for themselves in the field of biomedical engineering

By the time of graduation from the program, the students will have obtained

1. an ability to identify, formulate, analyze, model, and solve real-world biomedical engineering problems by integrating and applying basic principles of mathematics, life sciences, and engineering;
2. an ability to use modern science and engineering techniques, skills, and computational tools to support biomedical engineering analysis, modeling, problem solving, and design;
3. an ability to meet the desired needs of a client by designing a biomedical engineering system, component, or process;
4. an ability to design and conduct experiments as well as to measure, analyze, and interpret experimental data from living systems;
5. an ability to communicate effectively in both written reports and oral presentations;
6. an ability to function effectively within multi-disciplinary teams;
7. a broad education necessary for professional practice in biomedical engineering;
8. an understanding of how ethical, social, and professional responsibilities impact the practice of biomedical engineering;
9. an ability to recognize the limits of their knowledge and engage in self-directed learning;
10. a knowledge of contemporary issues and challenges facing biomedical engineers.

BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING
INTERNATIONAL PLAN
2006-2007 DEGREE REQUIREMENTS
School Of Biomedical Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
ENGL 1101 ENGLISH COMPOSITION I	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1315 SURVEY OF ORGANIC CHEMISTRY	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
BMED 1300 PROBLEMS IN BIOMEDICAL ENGINEERING I	3
ENGL 1102 ENGLISH COMPOSITION II	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
CHEM 3511 SURVEY OF BIOCHEMISTRY	3
PHYS 2212 INTRODUCTORY PHYSICS II	4
CS 1371 COMPUTING FOR ENGINEERS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
BMED 2210 CONSERVATION PRINCIPALS IN BMED	4
COE 2001 STATICS	2
ECE 3710 CIRCUITS & ELECTRONICS	2
BMED 2300 PROBLEMS IN BIOMEDICAL ENGINEERING II	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
BMED 3160 SYSTEMS PHYSIOLOGY I	4
BMED 3400 INTRODUCTION TO BIOMECHANICS	4
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
CEE / MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
BMED 3500 BIOMEDICAL SENSORS & INSTRUMENTATION	3
BMED 3161 SYSTEMS PHYSIOLOGY II	4
BMED 3300 BIOTRANSPORT	4
INTERNATIONAL RELATIONS ELECTIVE (SS)	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
TOTAL SEMESTER HOURS =	**17**

Summer Term: Internship Abroad

FOURTH YEAR-FALL	HRS
COUNTRY or REGIONAL ELECTIVE	3
BMED 4600 SENIOR DESIGN PROJECT I	2
BME TECHNICAL ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	HRS
BMED 4601 SENIOR DESIGN PROJECT II	3
BME TECHNICAL ELECTIVE(S)	3
GLOBAL ECONOMICS ELECTIVE (SS)	3
HUMANITIES / SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Minor in Biomedical Engineering

The minor requires the successful completion of at least eighteen hours of coursework selected from lists of approved biomedical engineering and bioscience courses (refer to **www.bme.gatech.edu/academics/undergrad_minor.html** for the current lists of approved courses). The goal of the minor program is to educate students in how to apply engineering fundamentals to solve problems in biology and medicine. The program should be of particular interest to those students who plan to pursue advanced degrees in biomedical engineering and/or medicine.

Department of Biomedical Engineering

The Department of Biomedical Engineering participates in an undergraduate Multidisciplinary Certificate in "Biomaterials".

See **www.mse.gatech.edu/Academics/Certificate_Programs/Biomaterials/biomaterials.html** for more details.

Master of Science in Bioengineering

This program is interdisciplinary in scope, where advanced courses in engineering specialties, life sciences, and bioengineering are combined with training in biomedical research. Both the M.S. and Ph. D. in bioengineering are being offered by the College of Engineering. Students select a home school within the College of Engineering (Aerospace Engineering, Biomedical Engineering, Civil and Environmental Engineering,Chemical and Biomolecular Engineering, Civil Engineering, Materials Science and Engineering, Mechanical Engineering, and/or Polymer, Textile, and Fiber Engineering). Only students selecting biomedical engineering as their home school are reviewed and admitted by the Department of Biomedical Engineering. High-quality students with engineering or non-engineering backgrounds (degrees in computer science, physics, chemistry, biology, or mathematics, or physicians with undergraduate degrees in engineering or the physical sciences) are eligible to apply to the program.

Ph.D. in Bioengineering

This program is interdisciplinary in scope, where advanced courses in engineering specialties, life sciences, and bioengineering are combined with training in biomedical research. Both the M.S. and Ph.D. in bioengineering are being offered by the College of Engineering. Students select a home school within the College of Engineering (Aerospace Engineering, Biomedical Engineering, Chemical and Biomolecular Engineering, Civil Engineering, Materials Science and Engineering, Mechanical Engineering, and/or Polymer, Textile, and Fiber Engineering). Only students selecting biomedical engineering as their home school are reviewed and admitted by the Department of Biomedical Engineering. High-quality students with engineering or non-engineering backgrounds (degrees in computer science, physics, chemistry, biology, or mathematics, or physicians with undergraduate degrees in engineering or the physical sciences) are eligible to apply to the program.

Doctoral Program in Bioinformatics

Participating Schools

College of Computing
School of Biomedical Engineering
School of Industrial and Sytems Engineering
School of Biology
School of Chemistry and Biochemistry
School of Mathematics

Objective of the program

The mission of the Georgia Tech Bioinformatics Ph.D. program is to educate and prepare graduate students to reach the forefront of leadership in the field of bioinformatics and computational biology, and to integrate research and education on the use of information technologies in biology and medicine. Thus, the program leading to a Ph.D. in Bioinformatics is an interdisciplinary program spanning a variety of academic departments at Georgia Tech.

Bioinformatics is a multidisciplinary field in which physical sciences, life sciences, computer science, and engineering are merged to solve both fundamental and applied problems in biology and medicine. The outcomes of bioinformatics and computational biology particularly include:

1. new and global perspectives into the organization and function of biological systems (fundamental biology);
2. new and novel targets for drug discovery and development; and
3. genetic/proteomic profiling for pharmaco-genomics or personalized medicine.

Thus, bioinformatics is emerging as a strategic discipline at the frontier of biology, biochemistry, biomedicine, bioengineering, computer science, and mathematics, impacting fundamental science, medicine, biotechnology, and society.

With its broad mission statement, this program at Georgia Tech has the following focus/strength areas:

1. Development of software tools, algorithms, and databases for gene identification, protein structural prediction, clustering analysis, and data mining
2. Application of bioinformatics to disease diagnosis, classification, prognosis, and treatment
3. Application of bioinformatics to fundamental biology and systems biology

There is an increasing demand for scientists with advanced training in bioinformatics. Professionals in this area should have a thorough knowledge of molecular biology, mathematics, and statistics, as well as computer science and engineering.

For more information visit **www.biology.gatech.edu/bioinformatics/bioinformatics_phd.htm**.

Ph.D. Program in Biomedical Engineering

The Joint Biomedical Engineering Ph.D. program is offered through the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University. The degree is conferred jointly by both Georgia Tech and Emory. The curriculum is based on an integration of life sciences, engineering, and mathematics. The goal is to enable students to postulate and solve biomedical problems quantitatively and with a systems perspective. Both Georgia Tech and Emory faculty provide an integrative teaching medium for students by "team-teaching" courses. One year of core courses establishes the fundamental principles in both life science and engineering. All students entering the program, regardless of undergraduate major, will be integrated into the same classes and are subject to the same program prerequisites. Problem-based learning in the first year will complement the engineering and life science courses. During the first and second semesters, students will be required to do a minimum of two lab rotations. Other requirements include a bioethics course, a teaching course, a teaching practicum, a minimum of nine hours of technical electives, and a nine-hour minor program of study outside the student's thesis research area.

Upon completion of the lab rotation requirement, students will be assigned a thesis advisor in the summer of the first year. After successfully passing the qualifying examination, students submit a request for approval of their Thesis Reading Committee. Upon successful completion of all degree requirements, students will be awarded the Ph.D. degree by the graduate schools of Georgia Tech and Emory.

Minimum Prerequisites
B.S. in Engineering or Life Sciences
One year of calculus-based physics
One year of organic chemistry
Calculus up to ordinary differential equations (normally two years)

M.D. / Ph.D. Program

The Coulter Department of Biomedical Engineering participates with the Emory University School of Medicine and the Medical College of Georgia to offer students an opportunity to combine their M.D. with a Ph.D. in Biomedical Engineering or Bioengineering.

School of Chemical and Biomolecular Engineering

Established in 1901
Location: Ford Motor Company Environmental Science and Technology Building
Telephone: 404.894.2865
Fax: 404.894.2866
Web site: **www.chbe.gatech.edu**

General Information

Chemical and biomolecular engineering is a discipline whose study prepares students for an enormously varied set of career paths. Graduates have become corporate executives, plant engineers, professors, inventors, lawyers, researchers, bankers, money managers, physicians, consultants, financial officers, and sales engineers; they have found employment with oil, chemical, biomedical, pharmaceutical, microelectronics, environmental, pulp and paper, food, textile, fertilizer, fragrance, and automobile companies, and with academia, government, banks, and brokerages. Chemical engineers have led the development of biomedicine and biotechnology; they have been crucial to the materials revolution, especially in computer chip manufacture, nanotechnology, and plastics and fibers, and they are essential in providing the everyday energy needs of the nation. Chemical and biomolecular engineering emphasizes environmentally benign manufacturing and sustainable development.

The chemical and biomolecular engineering undergraduate curriculum leads to a Bachelor of Science in Chemical and Biomolecular Engineering. Chemical and biomolecular engineering principles are taught as the foundation of that degree, but students also are expected to develop an ability to solve all kinds of problems, to view systems in their entirety, and to formulate and test solutions irrespective of the framework of the problem. Completion of the B.S. degree prepares students for entry into the workforce, advanced study in chemical and biomolecular engineering, or countless other graduate programs.

The curriculum has two options. The Biotechnology Option is for students who wish to focus their education on the biomolecular aspects of chemical and biomolecular engineering. This option includes the core chemical engineering courses, specialized biomolecular engineering courses, biochemistry, and technical electives focused in the biotechnology area. The Standard Program provides the basics of biomolecular engineering but allows much more flexibility for the student to pursue other areas of chemical engineering such as microelectronics, materials, and the environment. Special opportunities exist for students wishing to pursue minors or certificates in fields of particular interest, and students are encouraged to explore the frontiers of knowledge through involvement in faculty-directed research.

In addition to the B.S., the School of Chemical and Biomolecular Engineering offers programs leading to the master of science and the Ph.D. Students should check the School Web site for detailed curriculum information and recent updates.

Faculty

Cecil J. "Pete" Silas Chair and School Chair
Ronald W. Rousseau

Associate Chair and Professor
Sue A. Bidstrup Allen

Associate Chair and Professor
F. Joseph Schork

Associate Chair and Regents' Professor
Amyn S. Teja

J. Erskine Love Institute Chair in Engineering
Charles A. Eckert

William W. LaRoche Chair
Dennis W. Hess

Roberto C. Goizueta GRA Chair
William J. Koros

Wallace H. Coulter Chair
Ajit Yoganathan

Joseph M. Pettit Professor and Regents' Professor
Mark Allen

Regents' Professors
Paul A. Kohl, Charles L. Liotta

Professors
Sujit Banerjee, Andreas Bommarius, Jeff Empie, W. James Frederick, Thomas Fuller, Jeffrey S. Hsieh, Jay Lee, John D. Muzzy, Athanassios Sambanis

Professors Emeriti
William R. Ernst, Charles W. Gorton, John E. Husted, Michael Matteson, Clyde Orr Jr., Gary Poehlein, Ronnie S. Roberts, Robert J. Samuels, A. H. Peter Skelland, Jude T. Sommerfeld, Arnold F. Stancell, Henderson C. Ward, Jack Winnick

Associate Professors
Pradeep K. Agrawal, Rachel Chen, Yulin Deng, Larry J. Forney, Clifford Henderson, Christopher Jones, Peter Ludovice, Carson Meredith, Mark Prausnitz, Matthew Realff, Daniel W. Tedder

Assistant Professors
Victor Breedveld, Martha Gallivan, Hang Lu, Sankar Nair, Athanasios Nenes

Adjunct Professors
Yaman Arkun, Charlene W. Bayer, Elliott L. Chaikof

Undergraduate Program - General Information

The educational objectives of the School of Chemical and Biomolecular Engineering program are:

1. to educate and train students in the principles and methods essential to modern chemical and biomolecular engineering;
2. to broaden perspectives of students regarding social issues and responsibilities, ethics, and professionalism;
3. to graduate students recognized for excellence and selected for high-quality industrial, academic, and government positions;
4. to conduct research and contribute to a literature supportive of the needs of chemical and biomolecular engineering; and
5. to encourage and facilitate the growth of professionalism through continuing education.

In pursuit of these objectives, the following curriculum is designed to provide coverage of core areas of chemical and biomolecular engineering, and to allow students the opportunity to explore the breadth of the discipline. The curriculum requires a total of 132 hours for the B.S. degree. The Biotechnology Option allows the student to focus intensely in this rapidly emerging area of chemical engineering. The Standard Program provides the flexibility to explore other areas of chemical engineering practice, while providing an understanding of the biomolecular aspects of modern chemical engineering. The Standard Program will also allow chemical and biomolecular engineering students to tailor their educations to their particular interests and plans for their professional careers. Students are encouraged to use the elective hours to earn a minor or certificate, or at least to focus their electives in an area of particular interest.

Many graduates have found international experience obtained as a student to be valuable later in their careers. The School is developing special initiatives to facilitate such experiences, and it has a longstanding six-week summer program at University College London in which students receive six hours of elective credit and credit for CHBE 4200 (Transport and Unit Operations Laboratory).

Finally, although the focus of the curriculum is development of technical skills, it has elements geared to enhance communication, teamwork, and business skills.

Bachelor of Science in Chemical and Biomolecular Engineering

The Bachelor of Science in Chemical and Biomolecular Engineering provides the basics of biomolecular engineering but allows flexibility for the student to pursue other areas of chemical engineering such as microelectronics, materials, and the environment.

B.S. IN CHEMICAL AND BIOMOLECULAR ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Chemical & Biomolecular Engineering
Suggested Schedule

FIRST YEAR-FALL	**HRS**
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
BIOL 1510 BIOLOGICAL PRINCIPLES	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	**HRS**
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1371 COMPUTING FOR ENGINEERS	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-FALL	**HRS**
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CHEM 2311 ORGANIC CHEMISTRY I	3
CHBE 2100 CHEMICAL PROCESS PRINCIPLES	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
MATH 2403 DIFFERENTIAL EQUATIONS	4
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHBE 2110 CHEMICAL ENGINEERING THERMODYNAMICS I	3
CHBE 2120 NUMERICAL METHODS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
CHBE 3110 CHEMICAL ENGINEERING THERMODYNAMICS II	3
CHBE 3200 TRANSPORT PROCESS I	3
CHEM 2380 SYNTHESIS LAB I	2
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
SOCIAL SCIENCE ELECTIVE(S)	3
ECON 2100 ECONOMIC ANALYSIS & POLICY PROBLEMS	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	**HRS**
CHBE 3210 TRANSPORT PROCESSES II	3
CHBE 4300 KINETICS & REACTOR DESIGN	3
CHEM 3281 or CHEM 3511 or CHEM 4511	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
CHBE 3225 SEPERATION PROCESS	3
CHBE 4400 CHEMICAL PROCESS CONTROL	4

CHBE 4515 CHEMICAL PROCESS SAFETY	1
FREE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	**HRS**
CHBE 4200 TRANSPORTATION PHENOMENA / UNIT OPERATIONS LAB	3
CHBE 4505 PROCESS DESIGN & ECONOMICS	3
CHBE ELECTIVE(S)-Choose One: CHBE SPECIAL TOPIC IN BIOPROCESS ENGR or CHBE 4752 or 4770 or 4775	3
HUMANITIES ELECTIVE(S)	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses combined with three hours each of economics (ECON 2100) and history/political science, combined with an additional three hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Chemical and Biomolecular Engineering Electives

Both the Chemical Engineering Elective in the Standard Program and the Biotechnology Elective in the Biotechnology Option must be chosen from restricted lists available on the School's Web site (three hours each for the Standard Program and the Biotechnology Option, but from different lists).

Technical Electives-Standard Program

Six hours of technical electives are required for the standard program. To qualify as a technical elective, a course must be chosen from courses in the Colleges of Engineering, Sciences, or Computing, and may include one course at the 2000 or higher level plus the remainder at the 3000 or higher level. Students may count up to six hours of undergraduate research (CHBE 4699) toward fulfilling the technical elective requirements, and research hours in excess of six credits may be used to satisfy free elective requirements.

Technical Electives-Biotechnology Option

There are no technical electives for the Biotechnology Option.

Free Electives

Students may count up to six hours of undergraduate research (CHBE 4699) toward fulfilling the technical elective requirement, and research hours in excess of six credits may be used to satisfy the six hours of free electives requirement.

Pass/Fail Courses

Up to nine hours of undesignated humanities, social sciences, or free electives may be taken on a pass/fail basis. All other courses in the chemical and biomolecular engineering curriculum must be taken on a letter-grade basis. Transfer students are restricted to fewer pass/fail hours.

B.S. Chemical and Biomolecular Engineering - Biotechnology Option

The Biotechnology Option is for students who wish to focus their education on the biomolecular aspects of chemical and biomolecular engineering. This option includes the core chemical engineering courses, specialized biomolecular engineering courses, biochemistry, and technical electives focused in the biotechnology area.

B.S. IN CHEMICAL AND BIOMOLECULAR ENGINEERING
BIOTECH OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Chemical And Biomolecular Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
BIOL 1510 BIOLOGICAL PRINCIPLES	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1371 COMPUTING FOR ENGINEERS	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CHEM 2311 ORGANIC CHEMISTRY I	3
CHBE 2100 CHEMICAL PROCESS PRINCIPLES	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
CHEM 2312 ORGANIC CHEMISTRY II	3
CHBE 2120 NUMERICAL METHODS IN CHEMICAL ENGINEERING	3
CHBE 2110 CHEMICAL ENGINEERING THERMODYNAMICS I	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
CHBE 3110 CHEMICAL ENGINEERING THERMODYNAMICS II	3
CHBE 3200 TRANSPORT PROCESS I	3
CHEM 2380 SYNTHESIS LAB I	2
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
CHEM 4511 BIOCHEMISTRY I	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
BIOL 3340 CELL BIOLOGY	3
CHBE 3210 TRANSPORT PROCESSES II	3
CHBE 4300 KINETICS & REACTOR DESIGN	3
CHEM 4512 BIOCHEMISTRY II	3
ECON 2100 ECONOMIC ANALYSIS & POLICY PROBLEMS	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
CHBE 3225 SEPARATION PROCESS	

	3
CHBE 4400 CHEMICAL PROCESS CONTROL	4
CHBE 4515 CHEMICAL PROCESS SAFETY	1
CHBE 4310 Bioprocess Engineering	3
FREE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	**HRS**
CHBE 4210 TRANSPORT PHENOMENA/BIOPROCESS UNIT OPERATIONS	3
CHBE 4525 BIOPROCESS DESIGN & ECONOMICS	3
BIOTECHNOLOGY ELECTIVE(S)-Choose One: BIOL 3320 or 4668 or 4478 or CHBE 4757 or 4803 or 4901 or 6794 or CS 4710 or MATH 4755	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses combined with three hours each of economics (ECON 2100) and history/political science, combined with an additional three hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Chemical and Biomolecular Engineering Electives

Both the Chemical Engineering Elective in the Standard Program and the Biotechnology Elective in the Biotechnology Option must be chosen from restricted lists available on the School's Web site (three hours each for the Standard Program and the Biotechnology Option, but from different lists).

Technical Electives-Standard Program

Six hours of technical electives are required for the standard program. To qualify as a technical elective, a course must be chosen from courses in the Colleges of Engineering, Sciences, or Computing, and may include one course at the 2000 or higher level plus the remainder at the 3000 or higher level. Students may count up to six hours of undergraduate research (CHBE 4699) toward fulfilling the technical elective requirements, and research hours in excess of six credits may be used to satisfy free elective requirements.

Technical Electives-Biotechnology Option

There are no technical electives for the Biotechnology Option.

Free Electives

Students may count up to six hours of undergraduate research (CHBE 4699) toward fulfilling the technical elective requirement, and research hours in excess of six credits may be used to satisfy the six hours of free electives requirement.

Pass/Fail Courses

Up to nine hours of undesignated humanities, social sciences, or free electives may be taken on a pass/fail basis. All other courses in the chemical and biomolecular engineering curriculum must be taken on a letter-grade basis. Transfer students are restricted to fewer pass/fail hours.

B.S. in Chemical and Biomolecular Engineering - Research Option

The Chemical and Biomolecular Engineering undergraduate program offers an undergraduate Research Option that allows students to participate in undergraduate research and complete an undergraduate thesis. The words "Research Option" will appear on the transcript of each student completing the requirements to indicate that the student has had substantial, in-depth research experience.

B.S. IN CHEMICAL AND BIOMOLECULAR ENGINEERING
RESEARCH OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Chemical & Biomolecular Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
BIOL 1510 BIOLOGICAL PRINCIPLES	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1371 COMPUTING FOR ENGINEERS	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CHEM 2311 ORGANIC CHEMISTRY I	3
CHBE 2100 CHEMICAL PROCESS PRINCIPLES	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHBE 2110 CHEMICAL ENGINEERING THERMODYNAMICS I	3
CHBE 2120 NUMERICAL METHODS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
CHBE 3110 CHEMICAL ENGINEERING THERMODYNAMICS II	3
CHBE 3200 TRANSPORT PROCESS I	3
CHEM 2380 SYNTHESIS LAB I	2
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
FREE ELECTIVE(S) (UNDERGRADUATE RESEARCH *)	3
ECON 2100 ECONOMIC ANALYSIS & POLICY PROBLEMS	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
CHBE 3210 TRANSPORT PROCESSES II	3
CHBE 4300 KINETICS & REACTOR DESIGN	3
CHEMISTRY ELECTIVE(S) (BIOCHEMISTRY)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TECHNICAL ELECTIVE(S) (UNDERGRADUATE RESEARCH)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
CHBE 3225 SEPERATION PROCESS	3

CHBE 4400 CHEMICAL PROCESS CONTROL	4
CHBE 4515 CHEMICAL PROCESS SAFETY	1
FREE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TECHNICAL ELECTIVE(S) (UNDERGRADUATE RESEARCH)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-SPRING	**HRS**
CHBE 4200 TRANSPORTATION PHENOMENA / UNIT OPERATIONS LAB	3
CHBE 4505 PROCESS DESIGN & ECONOMICS	3
CHBE ELECTIVE(S)-THESIS COURSE	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Students may choose to register for one semester of research for pay instead of credit, however, the three credit hours must be made up in free elective hours.

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses combined with three hours each of economics (ECON 2100) and history/political science, combined with an additional three hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

chemical and biomolecular engineering electives

Both the Chemical Engineering Elective in the Standard Program and the Biotechnology Elective in the Biotechnology Option must be chosen from restricted lists available on the School's Web site (three hours each for the Standard Program and the Biotechnology Option, but from different lists).

Technical Electives-Standard Program

Six hours of technical electives are required for the standard program. To qualify as a technical elective, a course must be chosen from courses in the Colleges of Engineering, Sciences, or Computing, and may include one course at the 2000 or higher level plus the remainder at the 3000 or higher level. Students may count up to six hours of undergraduate research (CHBE 4699) toward fulfilling the technical elective requirements, and research hours in excess of six credits may be used to satisfy free elective requirements.

Technical Electives-Biotechnology Option

There are no technical electives for the Biotechnology Option.

Free Electives

Students may count up to six hours of undergraduate research (CHBE 4699) toward fulfilling the technical elective requirement, and research hours in excess of six credits may be used to satisfy the six hours of free electives requirement.

Pass/Fail Courses

Up to nine hours of undesignated humanities, social sciences, or free electives may be taken on a pass/fail basis. All other courses in the chemical and biomolecular engineering curriculum must be taken on a letter-grade basis. Transfer students are restricted to fewer pass/fail hours.

B.S./M.S. Chemical and Biomolecular Engineering

This program seeks to engage undergraduate students who indicate an interest in and ability for additional education beyond the B.S. degree. The key components of such a program are:

1. a meaningful undergraduate research experience (CHBE 4699, Undergraduate Research Project) for those seeking the M.S. degree by coursework; and
2. careful advising and course planning to enable students to begin graduate coursework in the fourth year of study. Students with significant AP credit will be especially well positioned to take full advantage of this opportunity.

Students will be eligible to apply for the program after completion of thirty credit hours at Georgia Tech (i.e., at the end of the freshman year). As a practical matter, students will need to apply before the completion of seventy-five semester credit hours (mid-point of junior year) to include transfer and AP credit. Students must have a Georgia Tech GPA of 3.5 or higher for admission to the program and maintain a GPA of 3.0 or higher to continue in the program.

The program will require thirty credit hours beyond those required for the B.S. degree in Chemical and Biomolecular Engineering. Students participating in the program will be eligible for the six-credit-hour **Graduate Course Option**.

Minors

Special opportunities exist for students wishing to pursue minors or certificates in fields of particular interest, and students are encouraged to explore the frontiers of knowledge through involvement in faculty-directed research.

Please visit our Web site at **www.chbe.gatech.edu/students/current/ugrad/special.htm** for more information.

Transfer Students

Due to the sequence of courses and the order in which they must be taken, students who transfer into the school of Chemical and Biomolecular Engineering (CHBE) from another university should expect to be enrolled for a minimum of six terms (a term is a semester or a summer session). If, for financial aid purposes, insurance, etc., students are required to be full-time, they should transfer to Georgia Tech having sufficient non-chemical and biomolecular engineering courses remaining to enroll full-time for six terms. All prerequisites and co-requisites must be followed.

B.S./M.S. Chemical and Biomolecular Engineering

This program seeks to engage undergraduate students who indicate an interest in and ability for additional education beyond the B.S. degree. The key components of such a program are:

1. a meaningful undergraduate research experience (CHBE 4699, Undergraduate Research Project) for those seeking the M.S. degree by coursework; and
2. careful advising and course planning to enable students to begin graduate coursework in the fourth year of study. Students with significant AP credit will be especially well positioned to take full advantage of this opportunity.

Students will be eligible to apply for the program after completion of thirty credit hours at Georgia Tech (i.e., at the end of the freshman year). As a practical matter, students will need to apply before the completion of seventy-five semester credit hours (mid-point of junior year) to include transfer and AP credit. Students must have a Georgia Tech GPA of 3.5 or higher for admission to the program and maintain a GPA of 3.0 or higher to continue in the program.

The program will require thirty credit hours beyond those required for the B.S. degree in Chemical and Biomolecular Engineering. Students participating in the program will be eligible for the six-credit-hour **Graduate Course Option**.

Master of Science in Bioengineering

The Bioengineering Program offers two options for students interested in pursuing an M.S. degree in bioengineering. There are non-thesis programs based solely on coursework as well as thesis-based programs involving independent research and coursework. In addition to the Bioengineering M.S. degree, several schools award traditional M.S. degrees, which may have a bioengineering topic. See **www.bioengineering.gatech.edu/academics/ms.html** for more information.

Master of Science in Chemical Engineering

The School of Chemical and Biomolecular Engineering offers graduate programs involving advanced-level coursework and independent research leading to M.S. and Ph.D. degrees in chemical engineering. The M.S. degree may also be obtained by coursework only. Course selection for both the M.S. and doctoral degrees is quite flexible, with individual plans of study developed for each student. Research opportunities exist in a broad range of areas of importance to chemical engineers and society, including air pollution control, biochemical and bioprocess engineering, polymer science, process design and simulation, catalysis, chemical reaction engineering, biomedical engineering, pulp and paper engineering, transport phenom-ena, fine particle technology, thermodynamics, electrochemical engineering, process control, separations, and microelectronics processing. Furthermore, the School of Chemical and Biomolecular Engineering participates with several other schools in offering M.S. and Ph.D. degrees in Bioengineering, Polymers, and Paper Science and Engineering.

Master of Science in Paper Science and Engineering

The Institute of Paper Science and Technology supports the M.S. degree programs offered by the Georgia Institute of Technology. The Paper Science and Engineering (PSE) program provides students with a multidisciplinary graduate education in the science and engineering involved in the production of paper, tissue, and other products from natural fiber and related industries. The processing and consolidation of natural fiber into a paper web involve complex chemical and mechanical processes. The advantages of a multidisciplinary approach in research and education supporting this field have long been recognized. The Georgia Tech PSE program integrates the former Institute of Paper Science and Technology multidisciplinary graduate program with the science and engineering programs available at Georgia Tech.

The M.S. degree in PSE is a unique multidisciplinary degree covering basic engineering and science disciplines involved in the production and consolidation of wood fiber products. Students are enrolled in the participating Georgia Tech school (referred to as the "home school") and, upon completion of degree requirements, the home school recommends the award of its M.S. degree with an emphasis in paper science and engineering. Degrees are being offered by the Schools of Chemical and Biomolecular Engineering, Chemistry and Biochemistry, Mechanical Engineering, and Materials Science and Engineering.

The paper industry continues to evolve through considerable consolidation and reorganization, and the need for innovation in the science and engineering of pulp and paper technology from plant biology to chemical treatment and processes involved in paper production is greater than ever. The PSE program provides research results and equips students with a unique set of skills to lead in this effort.

For more information please visit **www.ipst.gatech.edu/degree_progs/index.html**.

Master of Science in Polymers

The Master of Science in Polymers is offered through the Schools of Materials Science and Engineering, Chemical and Biomolecular Engineering, and Polymer, Textile, and Fiber Engineering. The core course requirements for polymer degrees are the same in each school. This core is designed to provide a balanced treatment of the chemistry, physics, and engineering of polymeric materials. At the same time, the wide range of elective courses and research projects permits students to develop an in-depth knowledge of a particular area of polymer science and engineering. This combination of breadth and depth of study is vital for the successful performance of polymer scientists and engineering graduates.

Master of Science with a Major in Chemical Engineering

The School of Chemical and Biomolecular Engineering offers graduate programs involving advanced-level coursework and independent research leading to M.S. and Ph.D. degrees in chemical engineering. The M.S. degree may also be obtained by coursework only. Course selection for both the M.S. and doctoral degrees is quite flexible, with individual plans of study developed for each student. Research opportunities exist in a broad range of areas of importance to chemical engineers and society, including air pollution control, biochemical and bioprocess engineering, polymer science, process design and simulation, catalysis, chemical reaction engineering, biomedical engineering, pulp and paper engineering, transport phenom-ena, fine particle technology, thermodynamics, electrochemical engineering, process control, separations, and microelectronics processing. Furthermore, the School of Chemical and Biomolecular Engineering participates with several other schools in offering M.S. and Ph.D. degrees in Bioengineering, Polymers, and Paper Science and Engineering.

Doctoral Program in Bioengineering

The Bioengineering Ph.D. degree requires a thesis based on independent study of a bioengineering research topic under the guidance of a bioengineering program faculty member. It also requires thirty six hours of coursework in a mixture of bioscience, mathematics, bioengineering, traditional engineering, and elective classes.

Doctoral Program in Chemical Engineering

The School of Chemical and Biomolecular Engineering offers graduate programs involving advanced-level coursework and independent research leading to M.S. and Ph.D. degrees in chemical engineering. The M.S. degree may also be obtained by coursework only. Course selection for both the M.S. and doctoral degrees is quite flexible, with individual plans of study developed for each student. Research opportunities exist in a broad range of areas of importance to chemical engineers and society, including air pollution control, biochemical and bioprocess engineering, polymer science, process design and simulation, catalysis, chemical reaction engineering, biomedical engineering, pulp and paper engineering, transport phenom-ena, fine particle technology, thermodynamics, electrochemical engineering, process control, separations, and microelectronics processing. Furthermore, the School of Chemical and Biomolecular Engineering participates with several other schools in offering M.S. and Ph.D. degrees in Bioengineering, Polymers, and Paper Science and Engineering.

Doctoral Program in Paper Science and Engineering

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The Ph.D. degree in PSE is a unique multidisciplinary degree covering basic engineering and science disciplines involved in the production and consolidation of wood fiber products. Students are enrolled in the participating Georgia Tech school (referred to as the "home school") and, upon completion of degree requirements, the home school recommends the award of its Ph.D. degree with an emphasis in paper science and engineering. Degrees are being offered by the Schools of Chemical and Biomolecular Engineering, Chemistry and Biochemistry, Mechanical Engineering, and Materials Science and Engineering.

The paper industry continues to evolve through considerable consolidation and reorganization, and the need for innovation in the science and engineering of pulp and paper technology from plant biology to chemical treatment and processes involved in paper production is greater than ever. The PSE program provides research results and equips students with a unique set of skills to lead in this effort.

For more information please visit **www.ipst.gatech.edu/degree_progs/index.html**.

School of Civil and Environmental Engineering

Established in 1896
Location: Mason Building
Telephone: 404.894.2201
Fax: 404.894.2278
Web site: **www.ce.gatech.edu**

General Information

The School of Civil and Environmental Engineering offers courses in civil engineering, environmental engineering, and engineering science and mechanics, as well as programs leading to the degrees Bachelor of Science in Civil Engineering, Master of Science in Civil Engineering, Master of Science in Engineering Science and Mechanics, Master of Science in Environmental Engineering, Master of Science (undesignated), and Doctor of Philosophy. The School also offers a joint program leading to the degrees Master of Science in Civil Engineering and Master of Science (undesignated), with a concentration in transportation engineering, and Master of City Planning.

Faculty

Chair and Professor
Joseph Hughes

Associate Chair and Associate Professor
John Leonard

Associate Chair for Graduate Studies and Associate Professor
Kenneth Will

Associate Chair for Undergraduate Studies and Professor
Laurence Jacobs

President and Professor
G. Wayne Clough

Provost and Professor
Jean-Lou Chameau

Associate Provost and Associate Professor
Nelson Baker

Director of Georgia Tech Savannah and Professor
J. David Frost

Associate Director for Georgia Tech Savannah, Associate Chair, and Professor
F. Michael Saunders

College of Engineering Distinguished Professor
Bruce Ellingwood

Georgia Power Distinguished Professor
Armistead Russell

Goizueta Foundation Faculty Chair and Professor
J. Santamarina

Professors
Mustafa Aral, Leroy Emkin, Aris Georgakakos, Leonid Germanovich, Barry Goodno, Randall Guensler, Lawrence Kahn, Roberto Leon, Stanley Lindsey, Paul Mayne, Michael Meyer, Spyros Pavlostathis, Glenn Rix, Philip Roberts, Fotis Sotiropoulos, Jim Spain, Terry Sturm, Peter Webster, Donald White, Sotira Yiacoumi, Abdul Hamid Zureick

Professor Emeritus
James Lai

Associate Professors
Adjo Amekudzi, Michael Bergin, Susan Burns, Reginald DesRoches, Rami Haj-Ali, Kimberly Kurtis, Frank Löffler, Rafi Muhanna, James Mulholland, Kurt Pennell, Marc Stieglitz, Donald Webster, Paul Work

Assistant Professors
Gena Abraham, Dominic Assimaki, Mulalo Doyoyo, Hermann Fritz, Laurie Garrow, Kevin Haas, Ching-Hua Huang, Michael Hunter, Jaehong Kim, David Scott, Arash Yavari

Academic Professionals and Other General Faculty
Mahera Philobos, Lisa Rosenstein

Adjunct and other Faculty Affiliates

John Abraham, Richard Barksdale, John Edwards, John Luh, Christa Peters-Lidard, Jae Ryou, Yi-Chang Tsai, Simon Washington

Research Engineers, Scientists, and Associates

Robert Abernathy, Dan Collins, Didier Contis, Jiabao Guan, David Key, Hainan Li, Shirley Nishino, Mehmet Odman, Feifei Pan, Karin Rebel, Michael Rodgers, Stacy Stringer, Michael Swanger, Costas Tsouris, Huaming Yao, Hamid Zand, Guangxuan Zhu

Undergraduate Program - General Information

The School of Civil and Environmental Engineering educational objectives are to:

1. provide an educational experience that prepares students for the challenges of the civil and environmental engineering profession that they will face during their professional careers;
2. promote scholarship and problem-solving skills;
3. provide opportunities for our students to exhibit leadership and team-building skills;
4. promote service to the profession and to society;
5. incorporate interdisciplinary concepts and problem-solving exercises into the educational program; and
6. provide exposure to the civil and environmental technologies of today and those likely of tomorrow.

Bachelor of Science in Civil Engineering

The four-year curriculum leading to the Bachelor of Science in Civil Engineering (B.S.C.E.) enables the graduate to enter professional practice as an engineer or to continue his or her studies in programs leading to advanced degrees in the following broad fields of specialization: construction engineering and management, environmental engineering, environmental hydraulics, geotechnical engineering, hydrology, materials, structural engineering and mechanics, transportation, and water resources planning and management. The B.S.C.E. degree program is designed to offer depth in course material considered essential for all civil and environmental engineers, as well as flexibility in selecting elective courses that offer breadth of topic exposure. Civil engineers contribute to society in numerous ways; thus, the School's philosophy is to provide the student with a range of electives that meet student interests. Civil engineers must not only be technically proficient, but also must be effective in working with people and with professionals in other disciplines. Accordingly, the School faculty has adopted the educational objectives mentioned in the previous section.

The Bachelor of Science in Civil Engineering degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. Graduates of the B.S.C.E. curriculum are eligible to seek licensing as registered professional engineers.

The course requirements of the B.S.C.E. degree are listed in the following pages. Although students are not obligated to take the courses during the semester indicated, they must satisfy all prerequisites for a particular course. In addition to campus-wide academic requirements for graduation with a bachelor's degree, the following are also required for the B.S.C.E. degree:

1. A *C* or better must have been earned in MATH 1501-1502, PHYS 2211, CHEM 1310, and COE 2001.
2. The number of quality points earned in civil engineering courses taken toward the degree must be at least twice the number of credit hours in those courses. If a course is repeated, the latest grade will be included in applying this rule. No CEE course may be repeated for the purpose of satisfying this rule if the original grade was a C or higher.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Civil And Environmental Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
CS 1371 COMPUTING FOR ENGINEERS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
ENGL 1102 ENGLISH COMPOSITION II	3
CEE 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CEE 2300 ENVIRONMENTAL ENGINEERING PRINCIPLES	3
ECON 2100 or 2105 or 2106	3
COE 2001 STATICS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
BIOL 1510 or BIOL1520 or EAS2600	4
CEE 2040 DYNAMICS	2
CEE 3000 CIVIL ENGINEERING SYSTEMS	3
PST 3105 or 3109 or 3127 (Ethics Elective)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
CEE 3040 FLUID MECHANICS	3
CEE 3020 CIVIL ENGINEERING MATERIALS	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
MSE 3000 or ME 3322 or CHBE 2110 (COE Elective-Group A)	3
SOCIAL SCIENCE ELECTIVE(S)	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
CEE 4200 HYDRAULIC ENGINEERING	3
CEE 3055 or 4100 or 4300 or 4400 or 4600 (Breadth Electives)	9
CEE 3770 STATISTICS & APPLICATIONS	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
CEE TECHNICAL ELECTIVE(S)	9
APPROVED ELECTIVE(S)	3
MSE 2001 or ECE 2025 or (ECE 3710 & 3741) (COE Technical Elective-Group B)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
CEE TECHNICAL ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S) (3000 or 4000 Level)	3
CEE 4090 CEE CAPSTONE DESIGN	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 126 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. The humanities requirement consists of ENGL 1101, ENGL 1102, a three-hour **humanities elective***, and an ethics course: PST 3105, 3109, or 3127. The social science requirement consists of a United States history/government course, economics (2100, 2105, or 2106), and six hours of general **social science**. All courses taken to satisfy humanities and social sciences must be taken on a letter-grade basis. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, INTA 1200, or PUBP 3000.

Technical Electives

There are eighteen hours of elective credit in the senior year. Students may use these electives to pursue a specific area of interest within civil and environmental engineering. A maximum of six hours, with faculty approval, may be chosen from outside the School of Civil and Environmental Engineering.

CEE 3010 Geomatics
CEE 4110 Construction Planning, Estimating, and Scheduling
CEE 4120 Construction Equipment and Methods
CEE 4210 Hydrology
CEE 4230 Environmental Transport Modeling
CEE 4310 Water Quality Engineering
CEE 4320 Hazardous Substance Engineering
CEE 4330 Air Pollution Engineering
CEE 4390 Environmental Engineering Water / Resources Design
CEE 4410 Geosystems Engineering Design
CEE 4420 Subsurface Characterization
CEE 4430 Environmental Geotechnics
CEE 4510 Structural Steel Design
CEE 4520 Reinforced Concrete Design
CEE 4530 Timber and Masonry Design
CEE 4540 Infrastructure Rehabilitation
CEE 4550 Structural Analysis 11
CEE 4610 Multimodal Transportation Planning, Design, and Operations
CEE 4620 Environmental Impact Assessment
CEE 4630 Computer-Aided Site and Roadway Design
CEE 4791 Mechanical Behavior of Composites
CEE 4793 Composite Materials and Processes
CEE 4794 Composite Materials and Manufacturing
CEE 4795 Groundwater Hydrology
CEE 4900 Undergraduate Honors Research Project

Other requirements include additional CEE courses and approved courses from other units.

Bachelor of Science in Civil Engineering - International Plan

The International Plan is a challenging and coherent academic program for undergraduates that develops global competence within the context of a student's major. It is a degree-long program that integrates international studies and experiences into any participating major at Georgia Tech. It helps to prepare Georgia Tech graduates professionally and personally for successful lives in the twenty-first century.

The International Plan is not intended to replace current international programs; it supplements them. Existing study abroad opportunities continue to be offered. It is also not intended to be an add-on to the current degree programs. It is intended to be another curriculum path to earn a degree in which international competence is integrated into the program of study. The Plan can be completed within the normal timeframe of four years of undergraduate study.

The overarching model for the International Plan has four components:

1. International coursework: Three courses to include one from each of the following categories:
    1. International relations
    2. Global economics
    3. A course about a specific country or region
2. International experience: Two terms abroad (not less than twenty-six weeks) engaged in any combination of study abroad, research, or internship
3. Second language proficiency: All students in the program are expected to reach at least the proficiency level equivalent to two years of college-level language study. Students who use the language to study, conduct research, or participate in an internship during their international experience are expected to attain a higher level of proficiency. Language proficiency is determined by testing (not course credits).
4. Culminating course: A capstone course in the major designed to tie the international studies and experiences together with the student's major

Completion of the International Plan is recognized by a designation on the student's diploma indicating completion of the degree with global competence.

For additional information about the International Plan visit **www.oie.gatech.edu/internationalplan**.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
WITH "INTERNATIONAL PLAN" DESIGNATOR
2006-2007 DEGREE REQUIREMENTS
School Of Civil And Environmental Engineering

Suggested Schedule-* Junior Year at University Stuttgart or TU Munich (Example)*
Students would be allowed to complete any approved International Experience Option

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
GRMN 1001 ELEMENTARY GERMAN I	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
ENGL 1102 ENGLISH COMPOSITION II	3
CEE 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
GRMN 1002 ELEMENTARY GERMAN II	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CS 1371 COMPUTING FOR ENGINEERS	3
GRMN 2001 INTERMEDIATE GERMAN I	3
COE 2001 STATICS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
CEE 2040 DYNAMICS	2
CEE 2300 ENVIRONMENTAL ENGINEERING PRINCIPLES	3
CEE 3000 CIVIL ENGINEERING SYSTEMS	3
GRMN 2002 INTERMEDIATE GERMAN II	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL * (ABROAD) *	HRS
CEE 3040 FLUID MECHANICS	3
CEE TECHNICAL ELECTIVE(S)	6
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING * (ABROAD) *	HRS
CEE 3770 STATISTICS & APPLICATIONS	3
CEE TECHNICAL ELECTIVE(S)	6
INTERNATIONAL RELATIONS ELECTIVE (Ethics)	3
ME 3322 THERMODYNAMICS	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
CEE 3020 CE MATERIALS	3
CEE 4200 HYDRAULICS	3

CEE BREADTH ELECTIVE(S)	3
GLOBAL ECONOMICS ELECTIVE	3
SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
CEE TECHNICAL ELECTIVE(S)	3
CEE BREADTH ELECTIVE(S)	6
CEE 4090 CEE CAPSTONE DESIGN (CULMINATING INT'L PLAN COURSE)	3
COE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 126 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Environmental Engineering

The School of Civil and Environmental Engineering (CEE) offers a B.S. degree in environmental engineering (B.S.Env.E.). The curriculum is designed to provide students with fundamental knowledge of scientific disciplines and engineering principles, which are used to address emerging environmental issues including sustainable air, water, and land resources; human health; and environmental restoration. In the first and second years, students take courses in physics, chemistry, biology, mathematics, English composition, and introductory engineering. The third year incorporates advanced engineering topics, including solid and fluid mechanics, thermodynamics, and laboratories in engineering materials, hydraulic engineering, and environmental monitoring and process engineering. The fourth year is elective-based, allowing students to select courses from specific focus areas, including biological processes, sustainability, air pollution, and water resources, in addition to technical and design electives. A senior-level capstone design course serves to integrate principles from a range of disciplines. The curriculum is intended to provide students with the flexibility to develop tailored sequences of electives to meet individual education and career objectives, while ensuring a comprehensive engineering design experience.

PROGRAM EDUCATIONAL OBJECTIVES

The undergraduate environmental engineering degree program will:

1. Provide students with fundamental knowledge and engineering skills required to solve complex engineering problems facing a global society based on principles of sustainable development for protection of human health and the environment
2. Instill principles of professional and ethical responsibility and importance of life-long learning
3. Provide a learning environment and culture that promotes student leadership, professional service, and academic scholarship
4. Develop oral and written communication skills necessary to function effectively within multidisciplinary research and design teams
5. Provide laboratory and design experiences that encourage creativity and open-ended problem solving based on science and engineering principles

DEGREE REQUIREMENTS

Specific course requirements and elective options for the B.S.Env.E. degree are listed in the following pages. Although students are not required to take courses during the indicated semester, all prerequisites for upper-level courses must be satisfied. In addition to Institute academic requirements for graduation with a B.S. degree, the following requirements must be satisfied:

1. A letter *C* or better must be earned in MATH 1501 and 1502, PHYS 2211, CHEM 1310, and COE 2001.
2. The total number of quality points earned in CEE courses used to satisfy degree requirements must be at least twice the number of credit hours in those courses. If a course is repeated, the most recent grade will used in applying this rule. No CEE courses may be repeated for the purpose of satisfying this rule if the original grade was a C or higher.

BACHELOR OF SCIENCE IN ENVIRONMENTAL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Civil And Environmental Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
CS 1371 COMPUTING FOR ENGINEERS	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
ENGL 1102 ENGLISH COMPOSITION II	3
CHEM 1315 SURVEY OF ORGANIC CHEMISTRY	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CEE 2300 ENVIRONMENTAL ENGINEERING PRINCIPLES	3
BIOL 1510 BIOLOGICAL PRINCIPLES	4
COE 2001 STATICS	2
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
EAS 2600 EARTH PROCESSES	4
CEE 2040 DYNAMICS	2
CEE 3000 CIVIL ENGINEERING SYSTEMS	3
ECON 2100 ECONOMIC ANALYSIS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
CEE 3040 FLUID MECHANICS	3
CEE 3020 CIVIL ENGINEERING MATERIALS	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
CEE 4300 ENVIRONMENTAL ENGINEERING SYSTEMS	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
CEE 4200 HYDRAULIC ENGINEERING	3
CEE 3340 ENVIRONMENTAL ENGINEERING LAB	3
CHEM 3411 PHYSICAL CHEMISTRY I	3
CEE / MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
CEE TECHNICAL ELECTIVE(S)	6
APPROVED ELECTIVE(S)	3
CEE 4XXX ENVE TECHNICAL ELECTIVE(S)	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3

PST ETHICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-SPRING	**HRS**
CEE TECHNICAL ELECTIVE(S)	3
CEE 4XXX ENVE DESIGN ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
CEE 4090 CEE CAPSTONE DESIGN	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 127 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. The humanities requirement consists of ENGL 1101, ENGL 1102, a three-hour **humanities elective***, and an ethics course: PST 3105, 3109, or 3127. The social science requirement consists of a United States history/government course, economics (2100, 2105, or 2106), and six hours of general **social science**. All courses taken to satisfy humanities and social sciences must be taken on a letter-grade basis. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, INTA 1200, or PUBP 3000.

Physical Chemistry/Thermodynamics Elective

One course is to be chosen from the following.

CHBE 2110 Chemical Engineering Thermodynamics I
CHEM 3411 Physical Chemistry I
EAS 3603 Thermodynamics-Earth Systems

Environmental Engineering Technical Elective

Three hours of elective credit are described as environmental engineering technical content. One course is to be chosen from the following.

CEE 4210 Hydrology
CEE 4400 Geotechnical Engineering
CEE 4620 Environmental Impact Assessment
CEE 4795 Ground Water Hydrology

Environmental Engineering Design Elective

Three hours of elective credit are described as environmental engineering design content. One course is to be chosen from the following.

BMED 4758 Biosolid Mechanics
CEE 4310 Water Quality Engineering
CEE 4320 Hazardous Substance Engineering
CEE 4330 Air Pollution Engineering
CEE 4395 Environmental Systems Design Project
CEE 3010 Geomatics
CEE 4100 Construction Engineering and Management
CEE 4210 Hydrology
CEE 4230 Environmental Transport Modeling
CEE 4310 Water Quality Engineering

CEE 4320 Hazardous Substance Engineering
CEE 4330 Air Pollution Engineering
CEE 4400 Geotechnical Engineering
CEE 4420 Subsurface Characterization
CEE 4600 Transportation Planning, Operation and Design
CEE 4620 Environmental Impact Assessment
CEE 4795 Ground Water Hydrology
CHBE 3200 Transport Processes I
CHEM 3281 Instrumental Analysis for Engineers
CHEM 3511 Survey of Biochemistry
CHEM 4740 Atmospheric Chemistry
CP 4210 Environmental Planning and Impact Assessment
CP 4510 Fundamentals of GIS
EAS 4420 Environmental Field Methods
EAS 4430 Remote Sensing and Data Analysis
EAS 4610 Earth Systems Modeling
EAS 4740 Atmospheric Chemistry
ECE 3710 Circuits and Electronics
ECE 3741 Instrumentation and Electronics Lab
ME 4171 Environmentally Conscious Design and Manufacturing
ME 4172 Designing Sustainable Engineering Systems
ME 4782 Biosystems Analysis

Technical Electives

There are twelve hours of technical elective credit. Students may use these electives to pursue a specific area of interest within environmental engineering.

BIOL 2335 General Ecology
BIOL 3380 Introductory Microbiology
BIOL 4010 Aquatic Ecology
BIOL 4430 Environmental Sustainability
BMED 3400 Introduction to Biomechanics
BMED 4757 Biofluid Mechanics
BMED 4758 Biosolid Mechanics
CEE 3010 Geomatics
CEE 4100 Construction Engineering and Management
CEE 4210 Hydrology
CEE 4230 Environmental Transport Modeling
CEE 4310 Water Quality Engineering
CEE 4320 Hazardous Substance Engineering
CEE 4330 Air Pollution Engineering
CEE 4400 Geotechnical Engineering
CEE 4420 Subsurface Characterization
CEE 4600 Transportation Planning, Operation and Design
CEE 4620 Environmental Impact Assessment
CEE 4795 Ground Water Hydrology
CHBE 3200 Transport Processes I
CHEM 3281 Instrumental Analysis for Engineers
CHEM 3511 Survey of Biochemistry
CHEM 4740 Atmospheric Chemistry

CP 4210 Environmental Planning and Impact Assessment
CP 4510 Fundamentals of GIS
EAS 4420 Environmental Field Methods
EAS 4430 Remote Sensing and Data Analysis
EAS 4610 Earth Systems Modeling
EAS 4740 Atmospheric Chemistry
ECE 3710 Circuits and Electronics
ECE 3741 Instrumentation and Electronics Lab
ME 4171 Environmentally Conscious Design and Manufacturing
ME 4172 Designing Sustainable Engineering Systems
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Joint B.S./M.S. Degree Program

The American Society of Civil Engineers has adopted a policy of urging students to obtain a master's degree as the entry-level degree in the profession. The faculty of the School of Civil and Environmental Engineering has concluded that in many civil engineering program areas, a master's degree is necessary for students to have sufficient background to be successful professionally.

The joint five-year B.S./M.S. program is designed to attract the best-of-the-best undergraduate students and is especially intended for students who demonstrate an interest in, and ability for, additional education beyond the bachelor's degree.

Students are eligible to apply for the program after they have completed thirty semester credit hours at Georgia Tech, typically at the end of the freshman year, and they have shown appropriate progress in their degree program. A grade point average of 3.5 or higher is needed for admission to the five-year B.S./M.S. honors program. Students must apply to the program before the completion of seventy-five semester credit hours, including transfer and advanced placement credits, typically at the mid-point of the junior year.

The key components of this program are intense interaction among students and faculty, including mentoring and undergraduate research, and careful advising and course planning to enable students to begin challenging coursework in their fourth year of study.

Students in the joint B.S./M.S. program remain undergraduates until they meet the requirements for the bachelor's degree, at which point they will receive the B.S.C.E. degree. They will then be changed to graduate status. Graduate school application fees and the GRE requirements are waived.

Once admitted, a GPA of at least 3.0 must be maintained to remain in the program. Additionally, students in the B.S./M.S. program are eligible to use the Graduate Course Option (described above) even if their cumulative grade point average is below 3.5 at the time they complete their bachelor's degree.

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Master of Science in Bioengineering

This program is interdisciplinary in scope, where advanced courses in engineering specialties, life sciences, and bioengineering are combined with training in biomedical research. Both the M.S. and Ph. D. in bioengineering are being offered by the College of Engineering. Students select a home school within the College of Engineering (Aerospace Engineering, Biomedical Engineering, Civil and Environmental Engineering,Chemical and Biomolecular Engineering, Materials Science and Engineering, Mechanical Engineering, and/or Polymer, Textile, and Fiber Engineering). Only students selecting biomedical engineering as their home school are reviewed and admitted by the Department of Biomedical Engineering. High-quality students with engineering or non-engineering backgrounds (degrees in computer science, physics, chemistry, biology, or mathematics, or physicians with undergraduate degrees in engineering or the physical sciences) are eligible to apply to the program.

Master of Science in Civil Engineering

Students seeking this degree must have previously earned a B.S. CE or its equivalent.

1. **Course Option**
   Required Courses in Major Area of Specialization eighteen (Construction Management, Environmental, Geosystems, Structures Mechanics and Materials, Transportation, Environmental Fluid Mechanics and Water Resources)
   Approved Electives 12
   Semester Hours 30*
2. **Thesis Option**
   Required Courses in Major Area of Specialization 12 (Construction Management, Environmental, Geosystems, Structures Mechanics and Materials, Transportation, Environmental Fluid Mechanics and Water Resources)
   Approved Electives 12
   Thesis 6
   Semester Hours 30**

*21 of the 30 hours of coursework must be at the 6000 level or higher
** 12 of the 24 hours of coursework must be at the 6000 level or higher

Master of Science in Engineering Science and Mechanics

Students seeking this degree must have a B.S. in engineering or the physical sciences.

1. **Course Option**
   Required Courses in Mechanics eighteen
   Mathematics 6
   Approved Electives 6
   Semester Hours 30*
2. **Thesis Option**
   Required Courses in Mechanics 12
   Mathematics 6
   Approved Electives 6
   Thesis 6
   Semester Hours 30**

*21 of the 30 hours of coursework must be at the 6000 level or higher
**12 of the 24 hours of coursework must be at the 6000 level or higher

Master of Science with a Major in Environmental Engineering

The degree Master of Science in Environmental Engineering (M.S. Env.E.) is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. Students seeking this degree must have an engineering undergraduate degree.

1. **Special Research Problem Option**
   Env.E. Core 12
   Env.E. and Other Electives 15
   Special Research Problem (CEE 8950) 3
   Semester Hours 30*
2. **Thesis Option**
   Env.E. Core 12
   Env.E. and Other Electives 12
   Thesis 6
   Semester Hours 30**

*21 of the 30 hours of coursework must be at the 6000 level or higher
**12 of the 24 hours of coursework must be at the 6000 level or higher

Through review with program faculty, students seeking the M.S. Environmental Engineering degree must meet additional requirements to assure they are proficient in required areas of environmental engineering. The educational objectives of the environmental engineering graduate program are to produce graduates who are able to:

1. address future challenges in the protection of the environment and the environment-related enhancement of the quality of human life;
2. conceive, plan, design, and implement those actions necessary for the protection of the environment and human health;
3. participate in interdisciplinary education and research that are fundamental to solving the problems facing a complex society and needed for the protection of the environment and human health within a framework of sustainable development;
4. lead an environmental engineering profession that is increasingly being driven by advances in science and technology; and
5. understand the value of scholarship, leadership, service, and lifelong learning.

Master of Science (Undesignated)

Students who do not meet the undergraduate degree requirements above but satisfy all the other requirements in their M.S. area of specialization receive the undesignated Master of Science degree.

1. **Course Option**
   Required Courses in Major Area of Specialization eighteen
   (Construction Management, Environmental, Geosystems, Structures Mechanics and Materials, Transportation, Environmental Fluid Mechanics and Water Resources)
   Approved Electives 12
   Semester Hours 30*
2. **Thesis Option**
   Required Courses in Major Area of Specialization 12
   (Construction Management, Environmental, Geosystems, Structures Mechanics and Materials, Transportation, Environmental Fluid Mechanics and Water Resources)
   Approved Electives 12
   Thesis 6
   Semester Hours 30**

*21 of the 30 hours of coursework must be at the 6000 level or higher
** 12 of the 24 hours of coursework must be at the 6000 level or higher

Graduate Course Option

Students who complete both the bachelor's and any of the master's degrees in the School of Civil and Environmental Engineering may use up to six credit hours of graduate-level coursework (CEE 6000 or higher) in the major discipline for both degrees. In order to qualify for this option, the student must complete the undergraduate degree with a cumulative grade point average of 3.5 or higher and complete the master's degree within two years after the awarding of the bachelor's degree.

Doctoral Program in Bioengineering

The School of Civil and Environmental Engineering (CEE) participates in Georgia Tech's interdisciplinary bioengineering Ph.D. program. The program enrolls students in a participating school (referred to as the "home school" which is CEE in this case) and upon completion of the degree requirements, the home school recommends the award of the degree. Bioengineering research focuses on the development of new or improved physical and mathematical concepts and techniques that may be applied to problems in medicine and biology. The curriculum provides the flexibility to concentrate in special areas so that the training is both multidisciplinary and integrated.

Doctoral Program in Civil Engineering

The Ph.D. program is offered to students with an excellent academic background and a capacity for independent research. Doctoral students tailor a highly individualized program of study directed toward completion of a dissertation that is expected to make an important contribution in their selected area.

Doctoral degrees are offered in civil engineering, environmental engineering, and engineering science and mechanics.

After consultation with the appropriate specialty group, the associate chair for graduate programs may grant the applicant admission to the appropriate doctoral program within the School. Applicants must have received an acceptable undergraduate or master's degree in engineering, mathematics, computer science, or the physical sciences from a recognized institution.

Students currently pursuing a master's degree who wish to continue studies toward the Ph.D. degree must get written approval from the head of the appropriate specialty group. Admission to the Ph.D. program does not constitute admission to candidacy for the Ph.D. degree.

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Doctoral degrees are offered in civil engineering, environmental engineering, and engineering science and mechanics.

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Students currently pursuing a master's degree who wish to continue studies toward the Ph.D. degree must get written approval from the head of the appropriate specialty group. Admission to the Ph.D. program does not constitute admission to candidacy for the Ph.D. degree.

Requirements for the Degree

1. A program of study must be approved by the student's Guidance Committee and the associate chair of graduate studies. There are no fixed course requirements for the Ph.D. degree. The student must have a major and minor field. The minor field is preferably outside the School of Civil and Environmental Engineering and must include at least nine hours of coursework. The minor field must be approved by the **Office of Graduate Studies**.
2. Pass a Ph.D. comprehensive (qualifying) examination consisting of written and oral portions.
3. Complete a Ph.D. dissertation.
4. Pass the final doctoral examination.

Specialty Groups

Applicants are encouraged to pursue interdisciplinary programs of study and research. For admission to the Ph.D. program, students must select one specialty group from the following:

1. Construction Engineering and Management
2. Environmental Engineering
3. Environmental Fluid Mechanics and Water Resources
4. Geosystems
5. Structural Engineering, Mechanics, and Materials
6. Transportation

If the student wishes to change from one specialty to another, he or she must obtain written permission from both specialty groups.

Certificate Program in Remote Sensing

Students completing the master's degree or doctoral degree requirements of the School may earn a Remote Sensing Certificate. Additional details can be found in this catalog at **www.catalog.gatech.edu/colleges/cos/eas/grad/certificates.php**.

Distance Learning and Professional Education

The School of Civil and Environmental Engineering offers working professionals the opportunity to enroll in graduate courses in environmental engineering through video technologies. Qualified individuals may complete the requirements for the master's program in environmental engineering utilizing the video-based delivery system.

School of Electrical and Computer Engineering

Established in 1896
Principal location: Van Leer Building
Telephone: 404.894.2901
Fax: 404.894.4641
Web site: **www.ece.gatech.edu**

General Information

The cornerstones of electrical engineering-the control of information and electric power-result from the fact that electromagnetic energy is the only form of energy that can be transmitted efficiently and under controlled conditions, even over great distances, from point of origin to point of use. Utilization of this fact has enabled electrical engineers to drive and define the information technology revolution by pioneering such diverse and important fields as computers, electric power, microelectronics, and telecommunications.

Computer engineering is a rapidly growing discipline that encompasses the principles, methods, and tools for the design and implementation of digital systems and the integration of computer technology into a wide range of applications. Rapid advances in underlying technologies have resulted in ever smaller, less costly, and higher-performance computer systems, as well as the use of computers as embedded elements in applications ranging from highly complex communication systems to sophisticated biomedical devices to common household appliances. The computer engineering program provides a balanced perspective of both hardware and software elements of computing systems, design trade-offs, and applications.

The School of Electrical and Computer Engineering (ECE) provides undergraduate and graduate programs that prepare students to participate in a broad range of career opportunities. Modern facilities and laboratories support experimental and theoretical programs of instruction and research. Additional information about the School is available at **www.ece.gatech.edu** or upon request by calling 404.894.2900.

Faculty

Steve W. Chaddick School Chair and Professor
Gary S. May

Associate Chair for Faculty Development and Professor
Andrew F. Peterson

Associate Chair for Graduate Affairs and Professor
Paul G. Steffes

Associate Chair for Undergraduate Affairs and Associate Professor
Douglas B. Williams

Associate Chair for Academic Operations and Professor
Joseph L. A. Hughes

Associate Chair for ECE at Georgia Tech Savannah and Professor
Monson H. Hayes III

Associate Chair for Operations and Professor Emeritus
Jay H. Schlag

Assistant to the Chair for Computer Services
David S. Webb

Julius Brown Chair Professor and Regents' Professor
Thomas K. Gaylord

Joseph M. Pettit Professor and Regents' Professor
Mark G. Allen

Joseph M. Pettit Professor and Regents' Professor
Russell M. Mersereau

Georgia Power Distinguished Professor and Regents' Professor
Ajeet Rohatgi

John Pippin Chair in Electromagnetics and Regents' Professor
Glenn S. Smith

Byers Professor
Ian F. Akyildiz

Arbutus Chair in Distributed Engineering Education and GRA Eminent Scholar
Thomas P. Barnwell III

Director, GTRI Electro-Optical Systems Laboratory, and Professor
Gisele Bennett

Byers Endowed Professor in Optical Networking and GRA Eminent Scholar
Gee-Kung Chang

John H. Weitnauer Jr. Technology Transfer Chair and GRA Eminent Scholar
John A. Copeland

Byers Professor
John D. Cressler

Steve W. Chaddick Endowed Chair in Electro-Optics and GRA Eminent Scholar
Russell D. Dupuis

Duke Power Company Distinguished Professor

Ronald G. Harley

John Pippin Chair in Wireless Systems and GRA Eminent Scholar

Nikil S. Jayant

Motorola Foundation Chair Professor and GRA Eminent Scholar

Biing-Hwang (Fred) Juang

ON Semiconductor Junior Professor

J. Stevenson Kenney

Motorola Foundation Professor

Kevin T. Kornegay

Demetrius T. Paris Assistant Professor

Aaron D. Lanterman

Joseph M. Pettit Professor

Joy Laskar

John and Marilu McCarty Chair of Electrical Engineering and Professor

James H. McClellan

Byers Professor

Steven W. McLaughlin

Joseph M. Pettit Chair in Microelectronics and Professor

James D. Meindl

Joseph M. Pettit Professor

Gordon L. Stüber

Julian Hightower Professor

Allen Tannenbaum

Joseph M. Pettit Chair in Electronics Packaging and GRA Eminent Scholar

Rao R. Tummala

Joseph M. Pettit Professor

Sudhakar Yalamanchili

Regents' Professors Emeriti

John W. Hooper, George P. Rodrigue, Ronald W. Schafer, Kendall L. Su

Professors

Miroslav M. Begovic, Douglas M. Blough, John A. Buck, W. Russell Callen Jr., Abhijit Chatterjee, Mark A. Clements, Stephen P. DeWeerth, Deepak Divan, John F. Dorsey, Ian T. Ferguson, Elias N. Glytsis, Thomas G. Habetler, James O. Hamblen, Bonnie S. Heck, William D. Hunt, Mary Ann Ingram, David C. Keezer, Bernard Kippelen, W. Marshall Leach Jr., Chin-Hui Lee, Vijay K. Madisetti, A. P. Sakis Meliopoulos, Abdallah Ougazzaden, Henry L. Owen, Krishna V. Palem, John B. Peatman, Waymond R. Scott Jr., Madhavan Swaminathan, David G. Taylor, George J. Vachtsevanos, Erik I. Verriest, Yorai Y. Wardi, D. Scott Wills, Rahman Zaghloul**, G. Tong Zhou

Professors Emeriti

Cecil O. Alford, Henry C. Bourne, Aubrey M. Bush, J. Alvin Connelly, Robert K. Feeney, Joseph L. Hammond, David R. Hertling, Richard J. Higgins, Edward B. Joy, Edward W. Kamen, Richard P. Kenan, Dale C. Ray, William E. Sayle

Associate Professors

Ali Adibi, Yucel Altunbasak, David V. Anderson, Farrokh Ayazi, Christopher Barnes**, John R. Barry, Oliver Brand, Robert J. Butera Jr., David S. Citrin, Jeffrey A. Davis, A. Bruno Frazier, Paul E. Hasler, Ayanna Howard, Chuanyi Ji, Arthur J. Koblasz, Ye (Geoffrey) Li, Jennifer E. Michaels, Thomas E. Michaels, Linda S. Milor, Vincent J. Mooney III, Ioannis (John) Papapolymerou, Stephen E. Ralph, Ashraf S. Saad**, David E. Schimmel, Raghupathy Sivakumar, Emmanouil M. Tentzeris, Linda M. Wills, Anthony J. Yezzi Jr., P. Douglas Yoder**

Associate Professor Emeritus

Mohamed F. Moad

Assistant Professors

Randal Abler**, Ghassan Al-Regib **, W. Alan Doolittle, Gregory D. Durgin, Magnus Egerstedt, Faramarz Fekri, Joel R. Jackson**, Benjamin D. B. Klein**, Hsien-Hsin (Sean) Lee, Sung Kyu Lim, Xiaoli Ma, Elliot Moore**, George F. Riley, Gabriel Rincon-Mora, Shyh-Chiang Shen, Patricio A. Vela, Paul L. Voss

Laboratory Manager II

Thomas E. Brewer

Laboratory Coordinator/Instructor

Allen Robinson

Lecturers

Catherine Bass, Christina Bourgeois, Giorgio Casinovi, Frank C. Lambert, Michael Laughter, Jerome Meisel, Gail O. Palmer, W. Whitfield Smith

Adjunct Faculty

Emmanuel Anemogiannis, Daniel J. Blumenthal, David E. Bockelman, Bertrand Boussert, Catherine Brechignac, Martin A. Brooke, Marijn Brummer, Brian Butka, Donald D. Davis, Jim D. Echard*, Robert Eisner, Irfan Essa, Gary G. Gimmestad, Jean-Pierre Goedgebuer, Mathieu Hans, Nile F. Hartman, E. Jefferson Holder, Michael L. Jamrozik, Nan Marie Jokerst, Lance Kaplan, Fred Kitson, Laurent Larger, Bob Lee, Y.L. Li, John O. Limb, Kenneth M. Mackenzie, Peter Manolios, John H. Matthews, Bill McKinnon, Robert McNally, Jerome Meisel, William L. Melvin, Stephen C. Mettler, Joseph W. Monaco, Romain Murenzi, William R. Owens*, Umakishore Ramachandran, William T. Rhodes, Mark Richards, Craig Richardson, Tariq Samad, Karsten Schwan, Robert E. Schwerzel, Oskar Skrinjar, Christopher Summers, John D. Terry, Kwan K. Truong, May Wang, Stephen B. Wicker, Zhiping (James) Zhou
*GTRI **Georgia Tech Savannah

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Electrical And Computer Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
ECE 2030 INTRODUCTION TO COMPUTER ENGINEERING	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
HUMANITIES ELECTIVE(S)	3
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	HRS
ECE 2031 DIGITAL DESIGN LAB	2
ECE 2040 CIRCUIT ANALYSIS	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
SCIENCE ELECTIVE (CHEM, PHYS, BIOL, EAS)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
ECE 3025 ELECTROMAGNETICS	3
ECE 3040 MICROELECTRONIC CIRCUITS	4
ECE 3041 INSTRUMENTATION & CIRCUITS LAB	2
ECON 2100 or 2101 or 2105 or 2106	3
HUMANITIES ELECTIVE(S)	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-SPRING	HRS
ECE 3042 MICROELECTRONIC CIRCUITS LAB	2
ECE BREADTH ELECTIVE(S)	9
APPROVED ELECTIVE(S)	3
ENGINEERING ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-FALL	HRS
ECE 4000 PROJECT ENGINEERING & PROFESSIONAL PRACTICE	3
ECE ELECTIVE(S)	4
ENGINEERING ELECTIVE(S)	3

APPROVED ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
ECE DESIGN ELECTIVE(S)	3
ECE ELECTIVE(S)	7
ENGINEERING ELECTIVE(S)	2
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

The electrical engineering curriculum includes sixty-four semester hours of electives, subject to the following requirements:

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200.Students must complete one of the following economics courses: ECON 2100, 2101, 2105, or 2106. The history/constitution and economics courses, combined with an additional six hours of **Institute-approved social science courses**, satisfy the twelve-hour social sciences requirement.

Ethics

Additionally, an approved **ethics course** must be completed; this is normally taken as part of either the humanities or social science electives.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Sciences

Three hours: APPH/BIOL 3751, BIOL 1510, BIOL 1520, CHEM 1311, CHEM 1315, EAS 1600, EAS 1601, EAS 2601, PHYS 2022, PHYS 2213, PHYS 3225, or course(s) approved by the School.

Engineering electives

Eight hours, must include (a) thermodynamics: AE 3450, ME 3322, or ME 3720; (b) probability/statistics: CEE/ISYE/MATH 3770 or ISYE 2027; and (c) AE 2120, BMED 3400, CEE 2020, COE 2001, ME 2211, MSE 2001, or a course at the 3000-level or above in the College of Engineering, outside ECE. All other courses must be approved by the School.

ECE ELECTIVES

Twenty-three hours: 3000 level or above in ECE, at least nine hours at the 4000 level or above; must include an approved electrical engineering major design course; must include three of the following course options: ECE 3050, ECE 3055 or 3060, ECE 3065, ECE 3070, ECE 3075, or 3076, ECE 3080, ECE 3085, or ECE 3090.

Approved (Free)

Twelve hours: ECE, other engineering, mathematics, sciences, computing, management, humanities, social sciences, or ROTC; all other courses subject to School approval.

Bachelor of Science in Electrical Engineering - International Plan

The International Plan is intended for students who seek an intensive international experience integrated into their undergraduate studies in electrical engineering. The International Plan develops global competence through a combination of coursework, language study, and residential overseas experience. Students who complete this option receive a designation on their transcript and diploma.

The electrical engineering aspects of the B.S. EE-International Plan degree requirements are identical to those for the regular B.S. EE. Please refer to the B.S. EE catalog description for general information about the degree program. Students may be able to satisfy the additional requirements imposed for the International Plan designation through appropriate choices of electives without additional credit hours to complete the degree. The International Plan designation may be pursued separately, or in combination with the Co-operative Plan and/or the Research Option.

The School of Electrical and Computer Engineering offers a junior-year program at the Georgia Tech Lorraine campus in Metz, France, that is designed to facilitate participation in the International Plan. However, Electrical Engineering majors are not restricted to this option and may complete any allowable courses, languages, and overseas experiences that satisfy the International Plan requirements.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
WITH "INTERNATIONAL PLAN" DESIGNATOR
2006-2007 DEGREE REQUIREMENTS
School Of Electrical And Computer Engineering

* Suggested Schedule- This B.S. EE - International Plan example assumes the Junior Year courses are completed at Georgia Tech Lorraine. Contact an ECE advisor to determine an appropriate schedule for your situation.*

FIRST YEAR-FALL	**HRS**
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
FREN 2001 FRENCH CULTURE I	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	**HRS**
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
ECE 2030 INTRODUCTION TO COMPUTER ENGINEERING	3
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
FREN 2002 FRENCH CULTURE II	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	**HRS**
ECE 2031 DIGITAL DESIGN LAB	2
ECE 2040 CIRCUIT ANALYSIS	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
SCIENCE ELECTIVE (CHEM, PHYS, BIOL, EAS)	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
ECON 2101 THE GLOBAL ECONOMY	3
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-FALL * (ABROAD) *	**HRS**
ECE 3025 ELECTROMAGNETICS	3
ECE 3040 MICROELECTRONIC CIRCUITS	4
ENGINEERING ELECTIVE(S) (Thermodynamics)	3
INTERNATIONAL RELATIONS ELECTIVE	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING * (ABROAD) *	**HRS**
ECE 3041 INSTRUMENTATION & CIRCUITS LAB	2
EE BREADTH ELECTIVE(S)	6
ENGINEERING ELECTIVE(S) (Probability/Stat)	3
ENGINEERING ELECTIVE(S) (COE 2001)	2
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	**HRS**

ECE 3042 MICROELECTRONIC CIRCUITS LAB	2
ECE 4000 PROJECT ENGINEERING & PROFESSIONAL PRACTICE	3
ECE ELECTIVE(S)	4
EE BREADTH ELECTIVE(S)	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
ECE 4006 Major Design Project	3
CULMINATING INT'L PLAN COURSE	3
ECE ELECTIVE(S)	7
HUMANITIES ELECTIVE(S)- (ETHICS COURSE)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

This example assumes prior credit for freshman language courses. Flexibility in course selection and scheduling depends heavily on AP credit and/or prior language experience. Actual elective choices and credit hours may differ from those shown in this example.

Electives

Students completing the B.S. EE-International Plan must satisfy all of the elective requirements specified for the regular B.S. EE.

In order receive the International Plan designation without additional credit hours, students must select their humanities, social sciences, and approved electives appropriately to also satisfy the International Plan requirements for language courses, an international relations course, a Country or Regional course, and the culminating course. ECON 2101, which satisfies the B.S. EE. economics requirement, also satisfies the International Plan requirement for a Global Economics course.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			

ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	

INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		

SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Bachelor of Science in Electrical Engineering - Research Option

The Research Option is intended for students who seek a concentrated research experience, culminating in an undergraduate thesis, integrated into their undergraduate studies in electrical engineering. This option includes three or four semesters of structured research and provides an open evaluation of a student's research capabilities, viewable by the public via a required Web-based research portfolio. Students who complete this option receive a designation on their transcript.

The electrical engineering aspects of the B.S. EE-Research Option degree requirements are identical to those for the regular B.S. EE . Please refer to the B.S. EE catalog description for general information about the degree program. Students may be able to satisfy the additional requirements imposed for the Research Option designation through appropriate choices of electives without additional credit hours to complete the degree. The Research Option designation may be pursued separately, or in combination with the Co-operative Plan and/or the International Plan.

The School of Electrical and Computer Engineering (ECE) offers a two-semester Undergraduate Research Opportunity Program (UROP), which may be completed to provide a less-intensive research experience or as the initial phase of the Research Option. Contact the ECE Academic Office for additional information about the Research Option, including specific Institute and ECE requirements, and assistance in planning your schedule to allow participation in this program.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
RESEARCH OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Electrical And Computer Engineering

Suggested Schedule-This B.S. EE Research Option example follows the Junior Track (4-semester) model.
Contact an ECE advisor to determine an appropriate schedule for your situation.

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
ECE 2030 INTRODUCTION TO COMPUTER ENGINEERING	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
HUMANITIES ELECTIVE(S)	3
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	HRS
ECE 2031 DIGITAL DESIGN LAB	2
ECE 2040 CIRCUIT ANALYSIS	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
SCIENCE ELECTIVE (CHEM, PHYS, BIOL, EAS)	3
ENGINEERING ELECTIVE(S) (NON-ECE)	2
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
ECE 3025 ELECTROMAGNETICS	3
ECE 3040 MICROELECTRONIC CIRCUITS	4
ECE 3041 INSTRUMENTATION & CIRCUITS LAB	2
ECE 3951 UNDERGRADUATE RESEARCH I *	1
ECONOMICS ELECTIVE(S)	3
APPROVED ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
ECE 3042 MICROELECTRONIC CIRCUITS LAB	2
ECE 3952 UNDERGRADUATE RESEARCH II *	2
ECE BREADTH ELECTIVE(S)	9
ENGINEERING ELECTIVE(S) (PROBABILITY / STAT)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
ECE 4000 PROJECT ENGINEERING & PROFESSIONAL PRACTICE	3

ECE ELECTIVE(S)	4
ENGINEERING ELECTIVE(S) (THERMODYNAMICS)	3
ECE 4699 UNERGRADUATE RESEARCH **	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
ECE 4006 MAJOR DESIGN PROJECT	3
ECE 4699 UNERGRADUATE RESEARCH **	3
LCC 4700 UNDERGRADUATE THESIS WRITING **	2
ECE ELECTIVE(S)	4
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*ECE Elective hours include 1 credit of ECE 3951 and 2 credits of ECE 3952

**Approved elective hours include 6 credits of ECE 4699 and 2 credits of LCC 4700

NOTE: B.S. EE students may follow either the Junior Track or Senior Track option. ECE 2698/4698 may be substituted for ECE 2699/4699 to meet the Research Thesis Option requirements, but will not count toward degree credit hours.

Actual elective credit hours may differ from those shown in this example

Electives

Students completing the B.S. EE-Research Option must satisfy all of the elective requirements specified for the regular B.S. EE .

In order receive the Research Option designation without additional credit hours, students must select their ECE electives and approved electives appropriately to also satisfy the Research Option requirements. Note the following restrictions on the use of research courses to satisfy degree requirements:

1. Special Problems, undergraduate research, and similar courses may not be included in the ECE electives, except (a) three credit hours for one ECE Undergraduate Research sequence, either ECE 3951 and 3952 or ECE 4951 and 4952, or (b) three credit hours of ECE 4699 for students who complete all requirements for the B.S. EE-Research Option.
2. A maximum of six credit hours of special problems, undergraduate research, and/or similar courses may be applied toward the degree. Except as noted above, these hours count only as approved electives. For students who complete all requirements for the B.S. EE-Research Option, this limit is increased to nine credit hours (three credit hours as ECE electives and six credit hours as approved electives).

Bachelor of Science in Computer Engineering

The School of Electrical and Computer Engineering offers two undergraduate degree programs: electrical engineering (EE) and computer engineering (CmpE). Both programs include elective hours, enabling students to individually tailor their programs to provide emphasis in a particular specialization or exposure to a broad range of subjects. Engineering analysis and design concepts are integrated throughout both programs, culminating in a common major design experience involving a broad range of issues including economic and societal considerations.

The field of computer engineering is centered in digital design, computer architecture, computer networks and internetworking, and computer applications. The B.S. CmpE program offers elective courses in a wide variety of specializations including computer architecture; embedded systems and software; design tools, test, and verification; computer networks and internetworking; distributed systems and software; and VLSI design. Additionally, students may elect to take advanced courses in other EE specializations, computer science, or programs such as mathematics, physics, or management. As an alternative to the B.S. CmpE degree, students may choose a computer engineering specialization within the B.S. EE degree program.

Information about **program accreditation and assessment** is available on the School's Web site . The School has established the following student educational objectives for its undergraduate programs:

1. Graduates will be technically competent within the field, including the ability to analyze and solve electrical/computer engineering problems by applying basic principles of mathematics, science, and engineering sciences. They will be able to use modern engineering techniques, skills, and tools, particularly recognizing the role that computers play in engineering. They will be able to identify, formulate, and solve novel electrical/computer engineering problems that are subject to realistic constraints.
2. Graduates will be able to apply the knowledge and skills from a broad education in order to understand the impact of electrical/computer engineering solutions in a global, societal, and environmental context consistent with the principles of sustainable development.
3. Graduates will be prepared for professional practice in engineering. They will demonstrate an understanding of ethical, social, and professional responsibility; recognize the need for and have the ability to engage in perpetual learning; and have the ability to function and communicate effectively, both individually and within multidisciplinary teams.

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Electrical And Computer Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
ECE 2030 INTRODUCTION TO COMPUTER ENGINEERING	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	HRS
ECE 2031 DIGITAL DESIGN LAB	2
ECE 2040 CIRCUIT ANALYSIS	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
SCIENCE ELECTIVE (CHEM, PHYS, BIOL, EAS)	3
ECE 3035 MECHANISMS FOR COMPUTING SYSTEMS	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
ECE 3040 MICROELECTRONIC CIRCUITS	4
ECE 3041 INSTRUMENTATION & CIRCUITS LAB	2
ECE 3055 COMPUTER ARCHITECTURE & OPERATING SYSTEMS	4
ECON 2100 or 2101 or 2105 or 2106	3
DISCRETE MATH ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
ECE 3042 MICROELECTRONIC CIRCUITS LAB	2
ECE 3060 VLSI & ADVANCED DIGITAL DESIGN	4
ECE 3025 ELECTROMAGNETICS	3
ENGINEERING ELECTIVE(S)	3
APPROVED ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-FALL	HRS
ECE 4000 PROJECT ENGINEERING & PROFESSIONAL PRACTICE	3
ECE / CS ELECTIVE(S)	3

ENGINEERING ELECTIVE(S)	3
APPROVED ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
COMPUTER ENGINEERING DESIGN COURSE	3
ECE / CS ELECTIVE(S)	7
SOCIAL SCIENCE ELECTIVE(S)	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

The computer engineering curriculum includes fifty-two semester hours of electives, subject to the following requirements:

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. Students must complete one of the following economics courses: ECON 2100, 2101, 2105, or 2106. The history/constitution and economics courses, combined with an additional six hours of **Institute-approved social science courses**, satisfy the twelve-hour social sciences requirement.

Ethics

Additionally, an approved **ethics course** must be completed; this is normally taken as part of either the humanities or social science electives.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Sciences

Three hours: APPH/BIOL 3751, BIOL 1510, BIOL 1520, CHEM 1311, CHEM 1315, EAS 1600, EAS 1601, EAS 2601, PHYS 2022, PHYS 2213, PHYS 3225, or course(s) approved by the School

Discrete Mathematics

Three hours: MATH 2602, MATH 3012, or course(s) approved by the School; course must be taken on a letter-grade basis.

Engineering electives

Six hours, must include (a) thermodynamics: AE 3450, ME 3322, or ME 3720; and (b) probability/statistics: CEE/ISYE/MATH 3770 or ISYE 2027. All other courses must be approved by the School.

ECE/CS ELECTIVES

Thirteen hours: 3000 level or above in ECE or CS, at least nine hours at the 4000 level or above; must include an approved computer engineering major design course

Approved (Free)

Nine hours: ECE, other engineering, mathematics, sciences, management, humanities, social sciences, or ROTC; all other courses subject to School approval

Bachelor of Science in Computer Engineering - International Plan

The International Plan is intended for students who seek an intensive international experience integrated into their undergraduate studies in computer engineering. The International Plan develops global competence through a combination of coursework, language study, and residential overseas experience. Students who complete this option receive a designation on their transcript and diploma.

The computer engineering aspects of the B.S. CmpE - International Plan degree requirements are identical to those for the regular B.S. CmpE . Please refer to the B.S. CmpE catalog description for general information about the degree program. Students may be able to satisfy the additional requirements imposed for the International Plan designation through appropriate choices of electives without additional credit hours to complete the degree. The International Plan designation may be pursued separately, or in combination with the Co-operative Plan and/or the Research Option.

The School of Electrical and Computer Engineering offers a junior-year program at the Georgia Tech Lorraine campus in Metz, France, that is designed to facilitate participation in the International Plan. However, Computer Engineering majors are not restricted to this option and may complete any allowable courses, languages, and overseas experiences that satisfy the International Plan requirements.

Electives

Students completing the B.S. CmpE-International Plan must satisfy all of the elective requirements specified for the regular B.S. CmpE.

In order receive the International Plan designation without additional credit hours, students must select their humanities, social sciences, and approved electives appropriately to also satisfy the International Plan requirements for language courses, an international relations course, a country or regional course, and the culminating course. ECON 2101, which satisfies the B.S. CmpE economics requirement, also satisfies the International Plan requirement for a global economics course.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			

ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	

INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		

SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING
WITH "INTERNATIONAL PLAN" DESIGNATOR
2006-2007 DEGREE REQUIREMENTS
School Of Electrical And Computer Engineering

* Suggested Schedule-This B.S. CmpE International Plan example assumes one semester of study abroad and a summer abroad work/internship/research experience. Contact an ECE advisor to determine an appropriate schedule for your situation.*

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
ECE 2030 INTRODUCTION TO COMPUTER ENGINEERING	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
ECE 2031 DIGITAL DESIGN LAB	2
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
LANGUAGE I (2000 Level)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
ECE 2040 CIRCUIT ANALYSIS	3
ECE 3035 MECHANISMS FOR COMPUTING SYSTEMS	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
SCIENCE ELECTIVE (CHEM, PHYS, BIOL, EAS)	3
LANGUAGE II (2000 Level)	4
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
ECE 3040 MICROELECTRONIC CIRCUITS	4
ECE 3041 INSTRUMENTATION & CIRCUITS LAB	2
ECE 3055 COMPUTER ARCHITECTURE & OPERATING SYSTEMS	4
ECON 2101 THE GLOBAL ECONOMY	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR SPRING * (ABROAD) *	HRS
COUNTRY or REGIONAL ELECTIVE	3
ENGINEERING ELECTIVE(S) (Probability/Stat)	3
ENGINEERING ELECTIVE(S) (Thermodynamics)	3
INTERNATIONAL RELATIONS ELECTIVE	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

Summer Term: International Work, Internship, or Research Experience

FOURTH YEAR-FALL	HRS
ECE 3025 ELECTROMAGNETICS	3
ECE 3042 MICROELECTRONIC CIRCUITS LAB	2
ECE 3060 VLSI & ADVANCED DIGITAL DESIGN	4
ECE 4000 PROJECT ENGINEERING & PROFESSIONAL PRACTICE	3
DISCRETE MATH ELECTIVE	3
APPROVED ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-SPRING	HRS
ECE 4006 Major Design Project	3
ECE / CS ELECTIVE(S)	7
CULMINATING INT'L PLAN COURSE	3
CS 4001 COMPUTING , SOCIETY, & PROFESSIONALISM	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

This example assumes prior credit for freshman language courses. Flexibility in course selection and scheduling depends heavily on AP credit and/or prior language experience. Actual elective choices and credit hours may differ from those shown in this example.

Bachelor of Science in Computer Engineering - Research Option

The Research Option is intended for students who seek a concentrated research experience, culminating in an undergraduate thesis, integrated into their undergraduate studies in computer engineering. This option includes three or four semesters of structured research and provides an open evaluation of a student's research capabilities, viewable by the public via a required Web-based research portfolio. Students who complete this option receive a designation on their transcript.

The computer engineering aspects of the B.S. CmpE-Research Option degree requirements are identical to those for the regular B.S. CmpE . Please refer to the B.S. CmpE catalog description for general information about the degree program. Students may be able to satisfy the additional requirements imposed for the Research Option designation through appropriate choices of electives without additional credit hours to complete the degree. The Research Option designation may be pursued separately, or in combination with the Co-operative Plan and/or the International Plan.

The School of Electrical and Computer Engineering (ECE) offers a two-semester Undergraduate Research Opportunity Program (UROP), which may be completed to provide a less-intensive research experience or as the initial phase of the Research Option. Contact the ECE Academic Office for additional information about the Research Option, including specific Institute and ECE requirements, and assistance in planning your schedule to allow participation in this program.

Electives

Students completing the B.S. CmpE-Research Option must satisfy all of the elective requirements specified for the regular B.S. CmpE . In order receive the Research Option designation without additional credit hours, students must select their ECE/CS electives and approved electives appropriately to also satisfy the Research Option requirements. Note the following restrictions on the use of research courses to satisfy degree requirements:

1. Special problems, undergraduate research, and similar courses may not be included in the ECE/CS electives, except (a) three credit hours for one ECE Undergraduate Research sequence, either ECE 3951 and 3952 or ECE 4951 and 4952, or (b) three credit hours of ECE 4699 for students who complete all requirements for the B.S. CmpE-Research Option.
2. A maximum of six credit hours of special problems, undergraduate research, and/or similar courses may be applied toward the degree. Except as noted above, these hours count only as approved electives. For students who complete all requirements for the B.S. CmpE-Research Option, this limit is increased to nine credit hours (three credit hours as ECE/CS electives and six credit hours as approved electives).

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING
RESEARCH OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Electrical And Computer Engineering

Suggested Schedule-This B.S. CmpE Research Option example follows the Senior Track (3-semester) model. Contact an ECE advisor to determine an appropriate schedule for your situation.

FIRST YEAR-FALL	**HRS**
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
ECE 2030 INTRODUCTION TO COMPUTER ENGINEERING	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	**HRS**
ECE 2025 INTRODUCTION TO SIGNAL PROCESSING	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	**HRS**
ECE 2031 DIGITAL DESIGN LAB	2
ECE 2040 CIRCUIT ANALYSIS	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
SCIENCE ELECTIVE (CHEM, PHYS, BIOL, EAS)	3
ECE 3035 MECHANISMS FOR COMPUTING SYSTEMS	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
ECE 3040 MICROELECTRONIC CIRCUITS	4
ECE 3041 INSTRUMENTATION & CIRCUITS LAB	2
ECE 3055 COMPUTER ARCHITECTURE & OPERATING SYSTEMS	4
ECONOMICS ELECTIVE(S)	3
DISCRETE MATH ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	**HRS**
ECE 3042 MICROELECTRONIC CIRCUITS LAB	2
ECE 3060 VLSI & ADVANCED DIGITAL DESIGN	4
ECE 3025 ELECTROMAGNETICS	3
ENGINEERING ELECTIVE(S) (PROBABILITY / STAT)	3
ECE 2699 UNERGRADUATE RESEARCH **	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-FALL	**HRS**
ECE 4000 PROJECT ENGINEERING & PROFESSIONAL PRACTICE	3

ECE / CS ELECTIVE(S)	4
ENGINEERING ELECTIVE(S) (THERMODYNAMICS)	3
SOCIAL SCIENCE ELECTIVE(S)	3
ECE 4699 UNERGRADUATE RESEARCH **	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
ECE 4006 MAJOR DESIGN PROJECT	3
ECE 4699 UNERGRADUATE RESEARCH *	3
ECE / CS ELECTIVE(S) **	4
LCC 4700 UNDERGRADUATE THESIS WRITING **	2
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 130 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*ECE /CS elective hours include 3 credits of ECE 4699

**Approved elective hours include 3 credits of ECE 2699, 3 credits of ECE 4699 and 2 credits of LCC 4700, and 1 excess credit of ECE/CS Electives

NOTE: B.S. CmpE students may follow either the Junior Track or Senior Track option. ECE 2698/4698 may be substituted for ECE 2699/4699 to meet the Research Thesis Option requirements, but will not count toward degree credit hours.

Actual elective credit hours may differ from those shown in this example

Georgia Tech Regional Engineering Program (GTREP)

The School of Electrical and Computer Engineering participates in the Georgia Tech Regional Engineering Program (GTREP) in southeast Georgia. Both the computer engineering and electrical engineering degree programs are offered at the **Georgia Tech Savannah** campus in association with GTREP's partner institutions (Armstrong State University, Georgia Southern University, and Savannah State University) in southeast Georgia. See **www.ece.gatech.edu** for additional information.

The requirements for the B.S. EE and B.S. CmpE degrees offered through GTREP are the same as those listed for the regular degrees. GTREP students also may pursue the Co-operative Education, International Plan, and Research Option designations.

Information about **program accreditation and assessment** is available on the School's Web site . The School has established the following student educational objectives for its undergraduate programs:

B.S./M.S. Electrical and Computer Engineering (Five-year)

This five-year program allows highly qualified students to receive the Bachelor of Science in either Electrical Engineering or Computer Engineering and a master's degree in Electrical and Computer Engineering within a five-year time frame. The joint B.S./M.S. degree program affords undergraduate electrical or computer engineering majors the opportunity to broaden their studies and improve their career prospects.

Eligible Georgia Tech undergraduates must apply for this program, normally during their junior year. Contact the Electrical and Computer Engineering Graduate Affairs Office for program information, eligibility requirements, and applications.

Master of Science in Electrical and Computer Engineering

The master's degree allows students to pursue advanced work in Electrical and Computer Engineering technical interest areas including bioengineering, computer engineering, digital signal processing, electric power, electromagnetics, electronic design and applications, microsystems, optics and photonics, systems and controls, and telecommunications.

The master's degree program requires thirty semester credit hours beyond the bachelor's degree, including a minor outside ECE. Both thesis and non-thesis options are available. Courses are offered all three terms; however, full-time students planning to complete the M.S. degree in twelve months should start their programs in the fall semester.

In order to receive the designated M.S.E.C.E. degree, a student must either (a) have an undergraduate degree from an ABET-accredited Electrical, Electronic(s), Computer or similarly-named engineering program, or its equivalent, or (b) complete additional coursework to satisfy the ABET General and Program Criteria for such a degree prior to receiving the M.S.E.C.E. Students who do not meet these requirements may pursue the undesignated M.S. degree with a major in Electrical and Computer Engineering.

Master of Science in Bioengineering

The School of Electrical and Computer Engineering (ECE) participates in the Bioengineering Program. This interdisciplinary graduate program offers advanced courses in bioengineering, engineering specialties, and life sciences combined with training in cutting-edge bioengineering research. Bioengineering research focuses on the development of new or improved physical and mathematical concepts and techniques that may be applied to problems in medicine and biology, including the fundamental study of biological phenomena and development of new medical devices.

The Bioengineering Program offers master's and doctoral degrees through participating schools in the College of Engineering and the College of Computing. The curriculum involves engineering and life sciences coursework and provides flexibility to concentrate in specific areas to develop a multidisciplinary and integrated training. Interested applicants with an electrical and/or computer engineering background apply for admission in the Bioengineering Program through ECE. Once admitted, students follow Bioengineering Program's degree requirements and curriculum.

Additional information on the Bioengineering Program, including how to apply and a comparison between the Bioengineering Program and traditional engineering programs, can be found at **www.bioengineering.gatech.edu**.

Students with an interest in bioengineering with a more traditional engineering approach, should apply directly to the ECE graduate program. Students with this focus would follow ECE's degree requirements and could possibly include up to five bioengineering-related classes in their program of study.

Master of Science with a Major in Electrical and Computer Engineering

The undesignated M.S. degree with a major in Electrical and Computer Engineering (ECE) has the same requirements as the designated M.S.E.C.E. degree. It is offered to accommodate students who do not meet the additional eligibility requirements of the designated degree.

The master's degree allows students to pursue advanced work in Electrical and Computer Engineering technical interest areas including bioengineering, computer engineering, digital signal processing, electric power, electromagnetics, electronic design and applications, microsystems, optics and photonics, systems and controls, and telecommunications.

The master's degree program requires thirty semester credit hours beyond the bachelor's degree, including a minor outside ECE. Both thesis and non-thesis options are available. Courses are offered all three terms; however, full-time students planning to complete the M.S. degree in twelve months should start their programs in the fall semester.

Dual M.S. program in ECE with Shanghai Jiao Tong University

Georgia Tech's newest global education partner is Shanghai Jiao Tong University (SJTU), located in Shanghai, China. Founded in 1896, SJTU is a leading engineering university comprised of several campuses, with more than 2,800 faculty and nearly 38,000 full-time students. This new initiative is also known as Georgia Tech Shanghai. Starting in May 2006, students enrolled at SJTU can pursue dual master's degrees from both institutions a: non-thesis master's degree from the School of Electrical and Computer Engineering at Georgia Tech and a thesis master's degree from the School of Electronic, Information, and Electrical Engineering at SJTU. Georgia Tech Shanghai also accepts a limited number of students who will only pursue the Georgia Tech master's degree in Shanghai. Assistance is available for Georgia Tech students wishing to pursue co-op or internship opportunities with multinational companies in China, following a semester of study at Georgia Tech Shanghai. In addition, selected Georgia Tech graduate courses will be taught at SJTU by Georgia Tech faculty during the summer and fall semesters of each year.

B.S./M.S. Electrical and Computer Engineering (Five-year)

This five-year program allows highly qualified students to receive the Bachelor of Science in either Electrical Engineering or Computer Engineering and a master's degree in Electrical and Computer Engineering within a five-year time frame. The joint B.S./M.S. degree program affords undergraduate electrical or computer engineering majors the opportunity to broaden their studies and improve their career prospects.

Eligible Georgia Tech undergraduates must apply for this program, normally during their junior year. Contact the Electrical and Computer Engineering Graduate Affairs Office for program information, eligibility requirements, and applications.

Doctoral Program in Electrical and Computer Engineering

Programs leading to the master's and doctoral degrees in Electrical and Computer Engineering are provided by the School. Technical interest areas include bioengineering, computer engineering, digital signal processing, electric power, electromagnetics, electronic design and applications, microsystems, optics and photonics, systems and controls, and telecommunications.

The doctoral degree program is research-oriented and highly individualized. Typically, at least four years of study beyond the bachelor's degree are required to complete the doctoral program.

Doctoral Program in Bioengineering

The Bioengineering Ph.D. degree requires a thesis based on independent study of a bioengineering research topic under the guidance of a bioengineering program faculty member. It also requires thirty six hours of coursework in a mixture of bioscience, mathematics, bioengineering, traditional engineering, and elective classes.

Certificate Program in Remote Sensing

Students completing the master's degree or doctoral degree requirements of the School may earn a Remote Sensing Certificate. Additional details can be found in this catalog at **www.catalog.gatech.edu/colleges/cos/eas/grad/certificates.php**.

Georgia Tech Lorraine

Students may choose to pursue graduate degrees in Electrical and Computer Engineering at Georgia Tech Lorraine, the European campus of the Georgia Institute of Technology, located in Metz, France. Undergraduate programs are also offered in the fall, spring, and summer terms at Georgia Tech Lorraine. In addition to courses taught in English by regular Georgia Tech faculty, students also may participate in courses and academic programs offered by partner French universities.

School of Industrial and Systems Engineering

School established in 1945,
Department established in 1924
Location: Groseclose Building
Telephone: 404.894.2300
Fax: 404.894.2301
Web site: **www.isye.gatech.edu**

General Information

Industrial and systems engineering is a branch of engineering that deals with the description, evaluation, design, modification, control, and improvement of the performance of complex systems. The field is unique in its identification of human beings as central contributors to the inherent complexity of such systems, but also as the primary targets and benefactors of their analysis and anticipated improvement. Students in the program are typically interested in obtaining a fundamental engineering background as a basis for the subsequent professional specialization in the various activities associated with the field. Among these are operations research, systems analysis, distribution and logistics, production, manufacturing, planning, quality control, economic and financial modeling, and others. Graduates can be found in a host of settings including transportation, telecommunications, hospitals, banking and finance, environmental systems, retailing, and consulting.

FACULTY

H. Milton and Carolyn J. Stewart School Chair and Professor

Chelsea C. White III

Associate Chair for Graduate Studies and Professor

R. Gary Parker

Associate Chair for Undergraduate Studies and Professor

Paul M. Griffin

NSF ADVANCE Professor of Engineering

Jane C. Ammons

Manhattan Associates Chair and Professor

John J. Bartholdi III

Russ and Sammie Chandler Chair and Professor

William J. Cook

Coca-Cola Chair and Professor

Ellis L. Johnson

Eugene C. Gwaltney Jr. Chair in Manufacturing Systems and Professor

L. F. McGinnis Jr.

A. Russell Chandler III Chair and Institute Professor

George L. Nemhauser

John Hunter Chair and Professor

Arkadi Nemirovski

UPS and Regents' Professor

H. Donald Ratliff

Anderson Interface Associate Professor of Natural Systems

Valerie Thomas

Georgia Freight Bureau Chair in Transportation and Logistics and Professor

Chelsea C. White III

Coca-Cola Chair of Engineering Statistics and Professor

Jeff Wu

Professors

Sigrun Andradottir, Earl R. Barnes, Jim Dai, Augustine O. Esogbue, Robert D. Foley, David M. Goldsman, Paul Kvam, Jack R. Lohmann, Jye-Chi Lu, Christine M. Mitchell, Renato Monteiro, William B. Rouse, Martin Savelsbergh, Richard L. Serfozo, Alexander Shapiro, Craig A. Tovey, Kwok-Leung Tsui, John H. VandeVate, Branislav Vidakovic

Professors Emeriti

Jerry Banks, Mokhtar Bazaraa, Leslie G. Callahan, David E. Fyffe, William W. Hines, John J. Jarvis (director emeritus), Cecil G. Johnson, Lynwood A. Johnson, Robert N. Lehrer (director emeritus), Justin Myrick, Alan L. Porter, Nelson K. Rogers, C. M. Shetty, Michael Thomas (director emeritus), Gerald J. Thuesen, Harrison M. Wadsworth

Associate Professors

Shabbir Ahmed, Faiz Al-Khayyal, Christos Alexopoulos, Hayriye Ayhan, Shijie Deng, Marc Goetschalckx, T. Govindaraj, Steven T. Hackman, Anthony J. Hayter, Xiaoming Huo, Pinar Keskinocak, Anton J.

Kleywegt, Eva Lee, Loren K. Platzman (adjunct), Amy Prichett, Spiridon A. Reveliotis, Gunter P. Sharp, Chen Zhou , Bert Zwart

Associate Professor Emeritus

Willard R. Fey

Assistant Professors

Ronald Billings, Alan Erera, Ozlem Ergun, Seong-Hee Kim, Yajun Mei, Nicoleta Serban, Joel Sokol, Julie Swann, Roshan Joseph Vengazhiyil, Joseph Wu, Ming Yuan
Courtesy Faculty Appointments
Terry Blum, Dean and Tedd Munchak Professor; Stephen E. Cross , Director of GTRI; Narayanan Jayaraman, Associate Professor, College of Management; Robin Thomas, Professor, School of Mathematics; Marie C. Thursby, Professor of Strategic Management and Hal and John Smith Chair in Entrepreneurship, College of Management.

Director, Professional Education (TLI)

Carole Bennet

Director, The Logistics Institute (TLI)

Harvey M. Donaldson

Director, Executive Master's in International Logistics (EMIL)

Terri Herod

Director of Information Technology

Mark Iken

Director of Supply Chain Executive Programs

C. John Langley Jr

Director of Workplace and Academic Communication

Judith Norback

Director of Development

Nancy Sandlin

Research Engineers

Douglas Bodner

Visiting Scholar / Practitioner Offerings

Occasionally, the School brings to campus selected individuals of unique accomplishment for course offerings built around their special areas of activity, thus making available a broader range of course materials than regularly provided. Prominent in this regard is the James C. Edenfield Executive-in-Residence program, which brings highly successful executives to the School. Participating much like visiting faculty, these executives bring to a classroom setting, both graduate and undergraduate, the benefit of their work experiences as they support the ISyE curriculum.

Bachelor of Science in Industrial Engineering

The principal strength of the academic program leading to the Bachelor of Science in Industrial Engineering (B.S.I.E.) is its blend of fundamental topics in mathematics and the physical and engineering sciences that are common to all engineering disciplines coupled with specialized study in subject areas such as optimization, probability and statistics, computing, economics, and psychology. It is precisely this blend that produces the flexibility that is inherent in the field of industrial and systems engineering and that affords B.S. IE graduates a wide array of career options.

Educational Objectives for the Bachelor of Science

The School of Industrial and Systems Engineering has six educational objectives for students receiving the B.S. IE Students will:

1. be prepared to function effectively and provide leadership within an organization as an industrial engineering (IE) professional including an ability to form, facilitate, lead, coordinate, and participate in teams as well as understand organizational processes and behavior;
2. be able to utilize the methodological and computational skills with which to operate effectively within the IE problem domain through training in problem representation, abstraction, and validation;
3. demonstrate an understanding of and an appreciation for the need to collect, analyze, and interpret data relevant to problems arising in the IE problem domain;
4. have the ability to approach unstructured problems, to synthesize and design potential solutions, and to evaluate the impact of their solutions in the broader context of the organization and society;
5. demonstrate the ability to effectively present and sell their solutions and to do so in the context of written, oral, and electronic media; and
6. demonstrate an understanding of and the need for the ability to accomplish lifelong growth within the field/profession of industrial and systems engineering.

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Industrial & Systems Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
PSYC 1101 GENERAL PSYCHOLOGY	3
LAB SCIENCE (Biol, Chem, Eas)	4
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CS 1316 REPRESENTING STRUCTURE & BEHAVIOR	3
ISYE 2027 PROBABILITY WITH APPLICATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2602 LINEAR & DISCRETE MATHEMATICS	4
ECON 2100 ECONOMIC ANALYSIS & POLICY PROBLEMS	3
FREE ELECTIVE(S)	3
ISYE 2028 BASIC STATISTICAL METHODS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
ISYE 3133 ENGINEERING OPTIMIZATION	3
ENGINEERING ELECTIVE(S)	3
ISYE 3232 STOCHASTIC MFG & SERVICE SYSTEMS	3
CS 4400 INTRODUCTION TO DATABASE SYSTEMS	3
ACCT 2101 or MGT 3100 or MGT 3150	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
ISYE 3044 SIMULATION ANALYSIS & DESIGN	3
ISYE ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
ENGINEERING ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-FALL	HRS
ISYE ELECTIVE(S)	6
ENGINEERING ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3

TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
ISYE 4106 SENIOR DESIGN	4
ISYE ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 126 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Science electives I and II

Selected from courses in physics, chemistry, biology, and/or earth and atmospheric sciences.

Engineering science electives

Are taken from (thermodynamics, statics, dynamics, circuits, DSP, junior/senior-level courses for other engineering schools).

Environment Requirement

Among all science and free electives, at least one course must be on the **environment**.

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Bachelor of Science in Industrial Engineering - International Plan

The Georgia Tech International Plan is an intensive program designed to prepare graduates professionally and personally for successful lives in the twenty-first century. The primary purpose of the International Plan is to offer a challenging and coherent academic program for highly capable students that develops global competence within the context of ISyE. A secondary purpose is to offer a unique international program to differentiate Georgia Tech from its academic competitors so as to attract more highly capable students, and top companies to recruit them.

For more details of the International Plan, including application materials, visit the **Office of International Education** Web site.

The course requirements are as follows:

1. at least one course focused on international relations historically and theoretically;
2. at least one course that provides a historical and theoretical understanding of the global economy;
3. at least one course that provides familiarity with an area of the world or a country that allows them to make systematic comparisons with their own society and culture; and
4. a culminating academic experience, occurring either at the end of, or after, the international experience that integrates knowledge of the discipline and the international experience in a global context.

In addition, students must demonstrate (through testing or other approved means) competency in a language other than English at an appropriate level. The language requirement may be satisfied in a student's native language if it is not English.

Finally, two terms of residential foreign experience for a total of at least twenty-six weeks are required. The experience must be characterized by living among and immersed within the local foreign academic, research, or work community. The two terms may consist of two terms of study, one term of study and one term of internship or research, or two terms of internship or research.

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

INTERNATIONAL PLAN

2006-2007 DEGREE REQUIREMENTS

School Of Industrial And Systems Engineering

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
PSYC 1101 GENERAL PSYCHOLOGY	3
LAB SCIENCE (Biol, Chem, Eas)	4
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
LAB SCIENCE (Environment)	4
CS 1371 COMPUTING FOR ENGINEERS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1316 REPRESENTING STRUCTURE & BEHAVIOR	3
ISYE 2027 PROBABILITY WITH APPLICATIONS	3
LANGUAGE I (2000 Level)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2602 LINEAR & DISCRETE MATHEMATICS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
ECON 2100 ECONOMIC ANALYSIS & POLICY PROBLEMS	3
ISYE 2028 BASIC STATISTICAL METHODS	3
LANGUAGE II (2000 Level)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
ISYE 3133 ENGINEERING OPTIMIZATION	3
ACCT 2101 or MGT 3100 or MGT 3150	3
ISYE 3232 STOCHASTIC MFG & SERVICE SYSTEMS	3
CS 4400 INTRODUCTION TO DATABASE SYSTEMS	3
ISYE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING * (ABROAD) *	HRS
GLOBAL ECONOMICS ELECTIVE	3
INTERNATIONAL RELATIONS ELECTIVE	3
COUNTRY or REGIONAL ELECTIVE	3
ENGINEERING ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

Summer Term: International Work, Internship, or Research Experience

FOURTH YEAR-FALL	HRS
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1

ISYE 3044 SIMULATION ANALYSIS & DESIGN	3
ISYE ELECTIVE(S)	6
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
ENGINEERING ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
ISYE 4106 SENIOR DESIGN (CULMINATING INT'L PLAN COURSE)	4
ISYE ELECTIVE(S)	9
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 126 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Exceptional Students Options

Program activities and options are available to encourage and reward students with superior records and abilities. Participation in these programs requires demonstrated scholastic excellence and prior arrangement with the student's advisor and/or the associate chair for Undergraduate Studies.

Graduate-Level Courses

Students with a cumulative grade point average of 3.3 or above may schedule up to nine credit hours of approved graduate-level courses. Some of these credits, when approved by the associate chair for Graduate Studies, may apply subsequently toward a graduate degree. Specific details regarding the latter are available in the Office of Academic Programs.

Honors Courses

When faculty resources permit, the School offers honors versions of some of the required courses for the B.S. IE Students with a cumulative grade point average of at least 3.3 are allowed to enroll in these courses and use them as replacements for the analogous course requirements in the curriculum.

Certificate and Minor in Cognitive Science

As part of the Cognitive Science Program at Georgia Tech, the School offers both a certificate and a minor in cognitive science for students who wish to link their studies with a broader interdisciplinary understanding of cognition. More information can be found at **www-static.cc.gatech.edu/cogsci/graduate_certificate.htm**.

M.S. with a Major in Industrial Engineering - Human-Integrated Systems Track

The School of Industrial and Systems Engineering offers seven master's degrees: the Master of Science in Industrial Engineering (M.S.I.E.); the Master of Science in Operations Research (M.S.O.R.); the Master of Science in Statistics (M.S.S.); the Master of Science in Health Systems (M.S.H.S.); the Master of Science in Quantitative and Computational Finance (M.S.Q.C.F.); the Executive Master of Science in International Logistics (E.M.I.L.); and the undesignated Master of Science (M.S.).

The M.S.I.E. program is available to students with an industrial engineering background and to other engineers who satisfy requirements covering the principal subject matter of the current B.S. IE curriculum. The other master's programs are available for students holding the B.S. in engineering, mathematics, or science. Requisites include work in probability, statistics, linear algebra, calculus, and optimization, as well as selected application area work. The student may satisfy these requirements after enrollment; however, such coursework may not apply toward fulfillment of the degree requirements. The undesignated M.S. program is typically for those students who wish to work in the area of human-integrated systems.

All proposed master's degree programs require thirty semester hours with the exception of E.M.I.L. and the M.S.Q.C.F., both of which require thirty-six hours; one option, the undesignated M.S. in Human-Integrated Systems, requires a thesis. In addition, the M.S.I.E. allows a choice of two tracks. One of these accommodates advanced study in modern manufacturing, warehousing, and logistics while the second allows for a concentration in human-integrated systems analysis.

Master of Science in Health Systems

The focus of the Health Systems is to develop, apply, and disseminate new knowledge with respect to the analysis, planning, implementation, demonstration, and evaluation of operational and managerial systems for the delivery of healthcare services to the public.

M.S. in Industrial Engineering - Manufacturing and Logistics Track

The School of Industrial and Systems Engineering offers seven master's degrees: the Master of Science in Industrial Engineering (M.S.I.E.); the Master of Science in Operations Research (M.S.O.R.); the Master of Science in Statistics (M.S.S.); the Master of Science in Health Systems (M.S.H.S.); the Master of Science in Quantitative and Computational Finance (M.S.Q.C.F.); the Executive Master of Science in International Logistics (E.M.I.L.); and the undesignated Master of Science (M.S.).

The M.S.I.E. program is available to students with an industrial engineering background and to other engineers who satisfy requirements covering the principal subject matter of the current B.S. IE curriculum. The other master's programs are available for students holding the B.S. in engineering, mathematics, or science. Requisites include work in probability, statistics, linear algebra, calculus, and optimization, as well as selected application area work. The student may satisfy these requirements after enrollment; however, such coursework may not apply toward fulfillment of the degree requirements. The undesignated M.S. program is typically for those students who wish to work in the area of human-integrated systems.

All proposed master's degree programs require thirty semester hours with the exception of E.M.I.L. and the M.S.Q.C.F., both of which require thirty-six hours; one option, the undesignated M.S. in Human-Integrated Systems, requires a thesis. In addition, the M.S.I.E. allows a choice of two tracks. One of these accommodates advanced study in modern manufacturing, warehousing, and logistics while the second allows for a concentration in human-integrated systems analysis.

Master of Science in Operations Research

The School of Industrial and Systems Engineering offers seven master's degrees: the Master of Science in Industrial Engineering (M.S.I.E.); the Master of Science in Operations Research (M.S.O.R.); the Master of Science in Statistics (M.S.S.); the Master of Science in Health Systems (M.S.H.S.); the Master of Science in Quantitative and Computational Finance (M.S.Q.C.F.); the Executive Master of Science in International Logistics (E.M.I.L.); and the undesignated Master of Science (M.S.).

The M.S.I.E. program is available to students with an industrial engineering background and to other engineers who satisfy requirements covering the principal subject matter of the current B.S. IE curriculum. The other master's programs are available for students holding the B.S. in engineering, mathematics, or science. Requisites include work in probability, statistics, linear algebra, calculus, and optimization, as well as selected application area work. The student may satisfy these requirements after enrollment; however, such coursework may not apply toward fulfillment of the degree requirements. The undesignated M.S. program is typically for those students who wish to work in the area of human-integrated systems.

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Master of Science in Quantitative and Computational Finance

The School of Industrial and Systems Engineering offers seven master's degrees: the Master of Science in Industrial Engineering (M.S.I.E.); the Master of Science in Operations Research (M.S.O.R.); the Master of Science in Statistics (M.S.S.); the Master of Science in Health Systems (M.S.H.S.); the Master of Science in Quantitative and Computational Finance (M.S.Q.C.F.); the Executive Master of Science in International Logistics (E.M.I.L.); and the undesignated Master of Science (M.S.).

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Master of Science in Statistics

The School of Industrial and Systems Engineering offers seven master's degrees: the Master of Science in Industrial Engineering (M.S.I.E.); the Master of Science in Operations Research (M.S.O.R.); the Master of Science in Statistics (M.S.S.); the Master of Science in Health Systems (M.S.H.S.); the Master of Science in Quantitative and Computational Finance (M.S.Q.C.F.); the Executive Master of Science in International Logistics (E.M.I.L.); and the undesignated Master of Science (M.S.).

The M.S.I.E. program is available to students with an industrial engineering background and to other engineers who satisfy requirements covering the principal subject matter of the current B.S. IE curriculum. The other master's programs are available for students holding the B.S. in engineering, mathematics, or science. Requisites include work in probability, statistics, linear algebra, calculus, and optimization, as well as selected application area work. The student may satisfy these requirements after enrollment; however, such coursework may not apply toward fulfillment of the degree requirements. The undesignated M.S. program is typically for those students who wish to work in the area of human-integrated systems.

All proposed master's degree programs require thirty semester hours with the exception of E.M.I.L. and the M.S.Q.C.F., both of which require thirty-six hours; one option, the undesignated M.S. in Human-Integrated Systems, requires a thesis. In addition, the M.S.I.E. allows a choice of two tracks. One of these accommodates advanced study in modern manufacturing, warehousing, and logistics while the second allows for a concentration in human-integrated systems analysis.

Master of Science in International Logistics

The School of Industrial and Systems Engineering offers seven master's degrees: the Master of Science in Industrial Engineering (M.S.I.E.); the Master of Science in Operations Research (M.S.O.R.); the Master of Science in Statistics (M.S.S.); the Master of Science in Health Systems (M.S.H.S.); the Master of Science in Quantitative and Computational Finance (M.S.Q.C.F.); the Executive Master of Science in International Logistics (E.M.I.L.); and the undesignated Master of Science (M.S.).

The M.S.I.E. program is available to students with an industrial engineering background and to other engineers who satisfy requirements covering the principal subject matter of the current B.S. IE curriculum. The other master's programs are available for students holding the B.S. in engineering, mathematics, or science. Requisites include work in probability, statistics, linear algebra, calculus, and optimization, as well as selected application area work. The student may satisfy these requirements after enrollment; however, such coursework may not apply toward fulfillment of the degree requirements. The undesignated M.S. program is typically for those students who wish to work in the area of human-integrated systems.

All proposed master's degree programs require thirty semester hours with the exception of E.M.I.L. and the M.S.Q.C.F., both of which require thirty-six hours; one option, the undesignated M.S. in Human-Integrated Systems, requires a thesis. In addition, the M.S.I.E. allows a choice of two tracks. One of these accommodates advanced study in modern manufacturing, warehousing, and logistics while the second allows for a concentration in human-integrated systems analysis.

Doctoral Programs

The Ph.D. program is intended for highly qualified individuals for whom past accomplishments and evaluation indicate a high potential for successful completion of the program requirements and a subsequent creative intellectual contribution to the field. Admission is, therefore, dependent upon student qualification rather than educational background in any specified discipline. Consideration for admission is based largely upon performance in prior academic work, the Graduate Record Examination (GRE), and credible letters of reference. Admitted students may pursue their work in any of six tracks: optimization, stochastic systems, manufacturing/logistics, economic decision analysis, applied statistics, and human-integrated systems.

Financial aid for Ph.D

Financial aid for Ph.D. study is available in the form of traineeships, fellowships, sponsored externships, and research and teaching assistantships.

Ph.D. Program in ISYE - Algorithms, Combinatorics, and Optimization

The Ph.D. program in algorithms, combinatorics, and optimization (ACO) is a multidisciplinary graduate program sponsored jointly by the School of Industrial and Systems Engineering, the College of Computing, and the School of Mathematics. The program is arranged to bring together the study of discrete structures and the design and analysis of algorithms in areas such as graph theory, integer programming, combinatorial optimization, network flows, and polyhedral theory. It is intended for students possessing a strong mathematical perspective and background in one or more of the fields represented by the sponsoring units.

Students in the program will have a single home department chosen from among the participating units, all of which contribute courses for the program. Students may apply to the ACO program at Georgia Tech through any one of these three units.

Doctoral Program In ISYE - Optimization Track

The optimization program of study is directed primarily at students interested in advanced-level coursework and research that deals with the fundamental subject matter of operations research methodologies. Included is a strong core component covering the three basic areas in mathematical programming: linear, combinatorial, and nonlinear optimization. Also, a yearlong core sequence of study in stochastics is included as are courses in mathematical statistics and theoretical computer science. Students then tend to complement their specific programs of study with upper division courses that set the stage for their research pursuits.

Doctoral Program in ISYE - Stochastic Systems Track

The stochastic systems track is aimed at students interested in the advanced study of those complex systems where the attribute of randomness predominates. A firm grounding in probability and stochastics processes influence the program of study. Topics that arise in coursework and research contexts that motivate this program include the theory of queues, telecommunication networks, reliability, portfolio selection, random graphs and networks, and the probabilistic analysis of algorithms among others.

Doctoral Program in ISYE - Manufacturing/Logistics Track

This program focuses on the design and analysis of manufacturing, distribution, and transportation systems. Students take fundamental coursework in optimization, stochastics, and statistics in order to build a firm base from which to deal with the myriad of issues that arise in settings involving modern supply chain systems modeling and analysis: production and inventory systems, vehicle routing and scheduling, warehousing, and logistics.

Doctoral Program in ISYE - Economic Decision Analysis Track

Engineering economic decision analysis is a broad-based area of study that concentrates on both theoretical approaches and the applied methodologies in various decision-making domains within an economic environment. Typical settings that attract students to this program include multicriteria decision-making, capital budgeting, auctions, portfolio analysis and selection, economic forecasting, utility theory, and quantitative finance.

Doctoral Program in ISYE - Applied Statistics Track

The emphasis in this track is on the use of statistics as a science that is employed in a technological environment. Within this context, a student takes fundamental coursework in mathematics, probability and statistics suitable to conduct advanced work and research in a variety of application domains. Among these are quality systems, manufacturing, production, and simulation.

Doctoral Program In ISYE - Human-Integrated Systems Track

The program in human-machine systems addresses the segment of engineering design that attempts to ensure that expensive and flexible human resources are most effectively used. Human-integrated systems analysis seeks to understand, describe, and prescribe activities characterizing the interface between humans and the variety of complex systems with which they are likely to deal.

Doctoral Program in Bioinformatics

Participating Schools

College of Computing
School of Biomedical Engineering
School of Industrial and Sytems Engineering
School of Biology
School of Chemistry and Biochemistry
School of Mathematics

Objective of the program

The mission of the Georgia Tech Bioinformatics Ph.D. program is to educate and prepare graduate students to reach the forefront of leadership in the field of bioinformatics and computational biology, and to integrate research and education on the use of information technologies in biology and medicine. Thus, the program leading to a Ph.D. in Bioinformatics is an interdisciplinary program spanning a variety of academic departments at Georgia Tech.

Bioinformatics is a multidisciplinary field in which physical sciences, life sciences, computer science, and engineering are merged to solve both fundamental and applied problems in biology and medicine. The outcomes of bioinformatics and computational biology particularly include:

1. new and global perspectives into the organization and function of biological systems (fundamental biology);
2. new and novel targets for drug discovery and development; and
3. genetic/proteomic profiling for pharmaco-genomics or personalized medicine.

Thus, bioinformatics is emerging as a strategic discipline at the frontier of biology, biochemistry, biomedicine, bioengineering, computer science, and mathematics, impacting fundamental science, medicine, biotechnology, and society.

With its broad mission statement, this program at Georgia Tech has the following focus/strength areas:

1. Development of software tools, algorithms, and databases for gene identification, protein structural prediction, clustering analysis, and data mining
2. Application of bioinformatics to disease diagnosis, classification, prognosis, and treatment
3. Application of bioinformatics to fundamental biology and systems biology

There is an increasing demand for scientists with advanced training in bioinformatics. Professionals in this area should have a thorough knowledge of molecular biology, mathematics, and statistics, as well as computer science and engineering.

For more information visit **www.biology.gatech.edu/bioinformatics/bioinformatics_phd.htm**.

Certificate in Cognitive Science

Graduate students desiring to approach their graduate studies from the perspective of cognitive science are encouraged to obtain a Certificate in Cognitive Science in addition to their graduate degree. Interested students will receive their degree from one of the participating units and follow an interdisciplinary curriculum tailored to their specific interests in cognitive science.

Students enter the certificate program after being admitted to a graduate unit. Although graduate students from any unit on campus may receive a Certificate in Cognitive Science, the program is currently tailored to graduate students in the College of Computing, the School of Psychology, and the School of Industrial and Systems Engineering.

To earn the Certificate in Cognitive Science, students must fulfill their graduate requirements in some unit on campus. In addition, they must take CS/PSYC/ISYE 6795: Introduction to Cognitive Science, along with nine semesters hours of courses from the Cognitive Science Program.

Information about the graduate certificate is available at **www-static.cc.gatech.edu/cogsci/graduate_certificate.htm** or from the Cognitive Science education coordinator.

Distance Learning and Professional Education

The School of Industrial and Systems Engineering offers off-campus working professionals the opportunity to enroll in many of its graduate courses through video technologies. Qualified individuals can complete the requirements for the M.S.I.E. or M.S.O.R. utilizing the video-based delivery system. Admission as a degree-seeking student in the video program is based upon the same criteria as for regular students. See **Distance Learning and Professional Education** for more information.

School of Materials Science and Engineering

Established in 1985,
School of Ceramic Engineering established in 1924
Location: J. Erskine Love Jr. Manufacturing Building
Telephone: 404.894.2888
Fax: 404.894.9140
Web site: **www.mse.gatech.edu**

General Information

The School of Materials Science and Engineering provides high-quality academic programs focused on developing a fundamental understanding of materials and the creation of new materials for the next generation of engineering applications. A discipline on the cutting edge of both science and engineering, it views biomaterials, nanomaterials, ceramics, metals, polymers, electronic materials and composites from a fundamental point of view, emphasizing the relationships between the atomic and micro-structure as well as the properties, processing, and performance of the materials.

Completion of the B.S. degree prepares students for entry into the workforce, advanced study in materials science and engineering, or other graduate programs. Materials engineers have many career options available, including employment in industries such as aerospace, automotive, biomedical, chemical, electronic, materials processing, and recreational equipment, as well as employment in universities and government laboratories.

Research and instruction in the School of Materials Science and Engineering at Georgia Tech spans the following areas:

1. Synthesis and processing focusing on development of advanced materials with novel compositions and tailored microstructures
2. characterization and evaluation of structure and properties using advanced techniques and state-of-the-art instrumentation
3. Modeling of structure-property-performance relationships emphasizing correlation of properties with the structure across nano-, micro-, meso-, and macro-length scales

MSE faculty participate in collaborative research projects with faculty from other schools in the Colleges of Engineering and Sciences, and the Georgia Tech Research Institute. Several interdisciplinary centers are led by MSE faculty. The external funding brought in by the faculty in the School of Materials Science and Engineering exceeds $16 million per year and comes from a wide variety of sources including industry, private foundations, and federal funding agencies. A significant number of materials specialists are required to meet the present and future opportunities and challenges of this field.

The School offers a Bachelor of Science in Materials Science and Engineering degree. An undergraduate minor in materials science and engineering is available for non-MSE majors. Graduate degrees (M.S. and Ph.D.) are offered in materials science and engineering, paper science and engineering, and in polymers.

Faculty

School Chair and Professor
Robert L. Snyder

Associate Chair and Professor
Naresh N. Thadhani

Carter N. Paden Jr. Distinguished Chair in Metals Processing
David L. McDowell

Joseph M. Petit Chair in Electronic Packaging and GRA Eminent Chair
Rao Tummala

Charles Smithgall Institute Endowed Chair
C. P. Wong

Regents' Professors
Thomas H. Sanders, Zhong Lin Wang,

Professors
Hamid Garmestani, Rosario Gerhardt, Arun M. Gokhale, W. Steven Johnson, Meilin Liu, William S. Rees, Kenneth Sandhage, Robert F. Speyer, Christopher J. Summers

Associate Professors
W. Brent Carter, Kenneth Gall, Mo Li, Preet Singh, Rina Tannenbaum

Assistant Professors
Nils Kröger, Valeria T. Milam

Professors Emeriti
James F. Benzel, Joe K. Cochran, Helen Grenga, Robert F. Hochman

Senior Research Scientist Emeritus
D. Norman Hill

Adjunct Professors
Stephen D. Antolovich, Janet Hampikian, James Wuifu Lee, Rajesh Naik, William J. Ready, Ashok Saxena

Principal Research Engineer Emeritus
Kathryn V. Logan

Courtesy Faculty Appointments
Barbara Boyan (BME), David Bucknall (PTFE), Russell D. Dupuis (ECE), Ian Ferguson (ECE), James Frederick, Jr. (IPST), Seth Marder (CHM), Rick Neu (ME), Meisha Shofner (PTFE), Jonathan W. Simons, (Winship Cancer Inst. Of Emory Univ.), Angus Wilkinson (CHM), Min Zhou (ME)

Bachelor of Science in Materials Science and Engineering

The materials science and engineering undergraduate program offers a B.S. degree in Materials Science and Engineering. This versatile degree combines traditional instruction in ceramic engineering, metallurgy, and polymer science with modern materials, including nanomaterials, biomaterials, composite materials, electronic materials, and optical and magnetic materials. Freshmen and sophomores study basic chemistry, physics, mathematics, and engineering science and are introduced to the basic aspects of materials. Two English courses taken in the freshman year provide the foundation for further instruction in communications that is integrated throughout the curriculum. Juniors and seniors take courses in the science of materials and in the details of materials processing, structure, and properties. The curriculum culminates in a two-course senior design sequence in which students work in teams to design a material, component, or process using previously learned skills and knowledge. Two technical electives and one free elective provide flexibility that allows students to specialize in a particular area of materials or to pursue other interests. Courses in the humanities/fine arts and social sciences ensure that graduates understand the role of engineering in today's global society.

Program Educational Objectives

The general educational objective of the Materials Science and Engineering undergraduate program is to provide its graduates with the fundamental knowledge to function effectively in materials-related positions in industry, government, and academics. The following specific Program Educational Objectives were established to ensure the attainment of this general objective consistent with the visions and missions of Georgia Tech and the College of Engineering, and ABET Criteria for Evaluating Engineering Programs:

1. To produce graduates of high quality
2. To produce graduates who are able to apply the fundamentals of mathematics and physical sciences to engineering problems
3. To produce graduates who are knowledgeable about processing-structure-property relationships in engineering materials such as metals, ceramics, polymers, electronic materials, composites, and biomaterials
4. To produce graduates who are able to identify and define problems, including design problems, develop and evaluate economically feasible alternative solutions from diverse knowledge bases, and implement an acceptable solution
5. To produce graduates who are able to communicate and contribute effectively while working in multidisciplinary teams
6. To produce graduates who are adept at using computers for analysis, design, and communication
7. To produce graduates who understand their professional and ethical responsibility to society in a global context
8. To produce graduates who understand the importance of lifelong learning and have the skills to pursue it

BACHELOR OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Materials Science And Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
CS 1371 COMPUTING FOR ENGINEERS	3
MSE 1001 INTRODUCTION TO ENGINEERING	1
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CHEM 2311 ORGANIC CHEMISTRY I	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
MSE 2020 CHARACTERIZATION OF MATERIALS	4
COE 2001 STATICS	2
ECON 2100 or 2105 or 2106	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
MSE 3000 CHEMICAL THERMODYNAMICS OF MATERIALS	4
MSE 3003 MECHANICAL BEHAVIOR OF MATERIALS	4
MSE 3015 ELECTRICAL, OPTICAL & MAGNETIC PROPERTIES	3
ECE 3710 CIRCUITS & ELECTRONICS	2
MSE 3025 STATISTICS & NUMERICAL METHODS IN MATERIALS SCIENCE & ENGINEERING	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
MSE 3002 STRUCTURAL TRANSFORMATIONS	3
MSE 3012 THERMAL & TRANSPORT PROPERTIES OF MATERIALS	3
MSE 3020 MATERIALS LAB	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-FALL	HRS
MSE 4002 CERAMIC MATERIALS	3

MSE ELECTIVE(S) *	3
MSE 4020 DESIGNING WITH MATERIALS I	1
MSE 4777 INTRODUCTION TO POLYMERS	3
SOCIAL SCIENCE ELECTIVE(S)	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	HRS
MSE 4010 ENVIRONMENTAL DEGRADATION	3
MSE 4021 DESIGNING WITH MATERIALS II	2
MSE 4006 PROCESSING & APPLICATIONS OF ENGINEERING ALLOYS	3
TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 125 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***MSE Electives (each may be chosen as a Technical Elective also)**
MSE 4004 Materials in Electronic Applications (Offered Spring)
MSE 4325 Thin Films Materials Science (Offered Fall of Even Years)
MSE 4330 Nanomaterials (Offered Fall)
MSE 4335 Advanced Nanomaterials (Offered Spring)
MSE/BME 4751 Introduction to Biomaterials (Offered Fall and Spring)
MSE 4754 Electronic Packaging Assembly, Reliability, Thermal Management and Test (Offered Spring)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. This course, along with either ECON 2100, 2105, or 2106, satisfies half of the social science obligation. An additional six hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Technical Electives

Technical electives may be any MSE course that is not required by number or most other engineering, science, or mathematics courses, including those in the list below. Students desiring to use courses not listed here should contact the director of Undergraduate Programs in the School of Materials Science and Engineering for approval.

AE/ME/CE 1770 (2-3-3) Introduction to Engineering Graphics & Visualization
AE 2020 (3-0-3) Low-speed Aerodynamics
AE 2220 (3-0-3) Dynamics
BIOL 1510 (3-3-4) Biological Principles
BIOL 1520 (3-3-4) Introduction to Organismal Biology
BIOL 2334 (3-4-4) Genetics
BMED 1300 (1-6-3) Problems in BME I
BMED 2300 (1-6-3) Problems in BME II
CEE 3020 (2-3-3) Civil Engineering Materials
CEE 3030 (3-0-3) Strength of Materials
CHE 2100 (3-0-3) Chemical Process Principles
CHE 2110 (3-0-3) Chemical Engineering Thermodynamics I
CHEM 2312 (3-0-3) Organic Chemistry II
CHEM 3411 (3-0-3) Physical Chemistry I
CHEM 3412 (3-0-3) Physical Chemistry II
CS 1331 (3-0-3) Object-Oriented Programming
ECE 2025 (3-3-4) Introduction to Signal Processing
ECE 2030 (3-0-3) Introduction to Computer Engineering
ISYE 2027 (3-0-3) Probability with Applications
MATH 2602 (4-0-4) Linear and Discrete Mathematics
ME 2016 (3-0-3) Computing Techniques
ME 2120 (2-3-3) Creative Decisions and Design
ME 2202 (3-0-3) Dynamics of Rigid Bodies
PHYS 2213 (3-0-3) Introduction to Modern Physics
PTFE 2001 (3-0-3) Introduction to Fiber Science

Free Elective

Any course(s), with the exception of courses such as MATH 1113, may be used to satisfy the free elective. Students can strengthen their program of study with an appropriate selection of this elective.

B.S. in Materials Science and Engineering - Research Option

The materials science and engineering undergraduate program offers a Research Option that allows students to participate in undergraduate research in faculty laboratories. The words "Research Option" will appear on the transcript of each student completing the requirements to indicate that the student has had a substantial, in-depth research experience.

The requirements for the "Research Option" in Materials Science and Engineering are:

1. Selection of a faculty advisor and research topic in conjunction with the faculty advisor. The topic and expected scope of the project must be approved in advance by the MSE Undergraduate Curriculum Committee. A key criterion will be whether the research may lead to a publishable paper.
2. Completion of nine units (see number 3 below) of supervised research, over a period of at least two, but preferably three, terms. Research may be either for pay or credit. At least six credit hours must involve work on a single research project.
3. Registration in nine hours of undergraduate research courses MSE 2698 and 4698 (for pay), or MSE 2699 and 4699 (for credit). Up to ten hours of MSE 2699 or 4699 can be used to satisfy the technical, MSE, and free elective requirements of the B.S. degree in MSE. Courses taken for credit must be passed with a grade of "*C*" or higher.
4. Completion of LCC 4700 "Writing an Undergraduate Thesis," with a grade of "*C*" or higher. This two hour course may be used to partially satisfy the three hour free elective requirement of the B. S. MSE degree.
5. Preparation of a research thesis, which may be in the form of a co-authored research paper or a substantial report, and approval by the faculty advisor and one other faculty member, appointed by the MSE Undergraduate Curriculum Committee. The thesis will be evaluated on the basis of publishability, originality, creativity, and clarity. The MSE Undergraduate Curriculum Committee must approve each "Research Option" awarded under the B.S. MSE program.

BACHELOR OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING
RESEARCH OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Materials Science And Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
CS 1371 COMPUTING FOR ENGINEERS	3
MSE 1001 INTRODUCTION TO ENGINEERING	1
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
CHEM 2311 ORGANIC CHEMISTRY I	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
MSE 2020 CHARACTERIZATION OF MATERIALS	4
COE 2001 STATICS	2
ECON 2100 or 2105 or 2106	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
MSE 3000 CHEMICAL THERMODYNAMICS OF MATERIALS	4
MSE 3003 MECHANICAL BEHAVIOR OF MATERIALS	4
MSE 3015 ELECTRICAL, OPTICAL & MAGNETIC PROPERTIES	3
ECE 3710 CIRCUITS & ELECTRONICS	2
MSE 3025 STATISTICS & NUMERICAL METHODS IN MATERIALS SCIENCE & ENGINEERING	3
MSE 4699 UNDERGRADUATE RESEARCH	1
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
MSE 3002 STRUCTURAL TRANSFORMATIONS	3
MSE 3012 THERMAL & TRANSPORT PROPERTIES OF MATERIALS	3
MSE 3020 MATERIALS LAB	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
MSE 4699 UNDERGRADUATE RESEARCH	1
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
MSE 4002 CERAMIC MATERIALS	3
MSE 4020 DESIGNING WITH MATERIALS I	1
MSE 4777 INTRODUCTION TO POLYMERS	3
SOCIAL SCIENCE ELECTIVE(S)	3
MSE 4699 UG RESEARCH (TECHNICAL ELECTIVES)	4
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	HRS
MSE 4010 ENVIRONMENTAL DEGRADATION	3
MSE 4021 DESIGNING WITH MATERIALS II	2
MSE 4006 PROCESSING & APPLICATIONS OF ENGINEERING ALLOYS	3
MSE 4699 UNDERGRADUATE RESEARCH	3
FREE ELECTIVE	1
LCC 4700 THESIS WRITING (FREE ELECTIVES)	2
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 125 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***MSE Electives (each may be chosen as a Technical Elective also)**
MSE 4004 Materials in Electronic Applications (Offered Spring)
MSE 4325 Thin Films Materials Science (Offered Fall of Even Years)
MSE 4330 Nanomaterials (Offered Fall)
MSE 4335 Advanced Nanomaterials (Offered Spring)
MSE/BME 4751 Introduction to Biomaterials (Offered Fall and Spring)
MSE 4754 Electronic Packaging Assembly, Reliability, Thermal Management and Test (Offered Spring)
MSE 4791 Mechanical Behavior of Composites (Offered Fall)
MSE 4793 Composite Materials and Processing (Offered Spring)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. This course, along with either ECON 2100, 2105, or 2106, satisfies half of the social science obligation. An additional six hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Technical Electives

Technical electives may be any MSE course that is not required by number or most other engineering, science, or mathematics courses, including those in the list below. Students desiring to use courses not listed here should contact the director of Undergraduate Programs in the School of Materials Science and Engineering for approval.

AE/ME/CE 1770 (2-3-3) Introduction to Engineering Graphics and Visualization
AE 2020 (3-0-3) Low-speed Aerodynamics
AE 2220 (3-0-3) Dynamics
BIOL 1510 (3-3-4) Biological Principles
BIOL 1520 (3-3-4) Introduction to Organismal Biology
BIOL 2334 (3-4-4) Genetics
BMED 1300 (1-6-3) Problems in BME I
BMED 2300 (1-6-3) Problems in BME II
CEE 3020 (2-3-3) Civil Engineering Materials
CEE 3030 (3-0-3) Strength of Materials
CHE 2100 (3-0-3) Chemical Process Principles
CHE 2110 (3-0-3) Chemical Engineering Thermodynamics I
CHEM 2312 (3-0-3) Organic Chemistry II
CHEM 3411 (3-0-3) Physical Chemistry I
CHEM 3412 (3-0-3) Physical Chemistry II
CS 1331 (3-0-3) Object-Oriented Programming
ECE 2025 (3-3-4) Introduction to Signal Processing
ECE 2030 (3-0-3) Introduction to Computer Engineering
ISYE 2027 (3-0-3) Probability with Applications
MATH 2602 (4-0-4) Linear and Discrete Mathematics
ME 2016 (3-0-3) Computing Techniques
ME 2120 (2-3-3) Creative Decisions and Design
ME 2202 (3-0-3) Dynamics of Rigid Bodies
PHYS 2213 (3-0-3) Introduction to Modern Physics
PTFE 2001 (3-0-3) Introduction to Fiber Science

Free Elective

Any course(s), with the exception of courses such as MATH 1113, may be used to satisfy the free elective. Students can strengthen their program of study with an appropriate selection of this elective.

B.S./M.S. Materials Science and Engineering (Five-year)

The School of Materials Science and Engineering (MSE) offers a five-year B.S./M.S. program for outstanding students who want to obtain a graduate degree in addition to their B.S. degree. The advanced degree provides the additional knowledge and specialization needed to further facilitate a technical career. As a participant in this program, students have an opportunity to work with individual faculty members on projects in one of the traditional or cutting-edge research areas in MSE. See **www.mse.gatech.edu** for more details.

Grade Requirements

In order to encourage students to explore subjects of personal or professional interest without jeopardizing their GPA, the Institute has a limited pass/fail option. The policy of the School of Materials Science and Engineering regarding the use of pass/fail hours for credit is as follows: no course specifically required by number by the materials science and engineering curriculum may be taken on a pass/fail basis and used toward graduation, unless the course is offered only on that basis.

In addition to the Institute scholastic requirements, the School of Materials Science and Engineering requires that a *C* or above be obtained in all MSE courses in order for them to be used as credit toward graduation. An *S* (satisfactory) in a course taken pass/fail is equivalent to at least a *C*.

A student whose final grade in an MSE course is *D* must repeat that course and earn a *C* or better for it to be used as credit toward graduation. If the course is not offered again before the student's expected graduation term, the student will be permitted one re-examination in a single course if the following conditions are met:

1. the student did not receive any *F* grades in courses required for graduation for the graduation term
2. the D was not the result of poor lab performance

The re-examination will be graded *S* (satisfactory) or *U* (unsatisfactory) with a *C* or better performance required for an *S*. The previously assigned *D* will remain unchanged, but the director of undergraduate programs will approve its use toward graduation if the re-examination grade assigned is an *S*. The student's GPA must satisfy Institute requirements for graduation with the *D*.

The re-examination for a single *D* deficiency in an MSE course taken prior to the expected graduation term must be taken by the end of the final examination period for the expected graduation term.

The re-examination for a single *D* deficiency received during the expected graduation term must be taken prior to the last day of phase II registration. If an *S* is received, the deficiency will be removed and the student will be eligible to graduate the following term and may obtain a letter of completion from the registrar.

A re-examination becomes invalid if the student fails to qualify for graduation before the course for which the re-examination was given is offered again.

Minor in Materials Science and Engineering

The School of Materials Science and Engineering offers an undergraduate minor in Materials Science and Engineering for non-MSE majors. The purpose of the minor is to broaden the materials background of non-materials science and engineering students and to introduce them to a materials approach to problem solving that is different from that provided by their major.

A requirement for earning a minor in Materials Science and Engineering is to complete eighteen semester hours of MSE coursework, of which twelve semester hours must be at the 3000 level or higher and all of which must be at the 2000 level or higher. Courses required for the major (excluding electives) may not be applied toward the minor. Many students will be able to complete a considerable portion of the minor requirements by scheduling MSE courses as electives required by their major.

Non-MSE undergraduate majors are encouraged to participate in this program provided they have the appropriate prerequisites and approval of their home school academic advisor. To participate or for additional information, contact the director of Undergraduate Programs in the School of Materials Science and Engineering.

Certificates

The School of Materials Science and Engineering offers certificates in biomaterials, composites, and nanotechnology. Students may fulfill the certificate requirements by taking twelve credit hours* of approved courses. By appropriate choice of technical and free electives, only one course outside of those required for the B.S. MSE degree is required for any certificate. Contact the director of undergraduate programs in MSE or go to **www.mse.gatech.edu/Academics/Certificate_Programs/certificate_programs.html** for eligibility requirements and an updated list of approved courses.

*BIOL 1510 is required for the Biomaterials certificate. Since this is a four credit hour course, thirteen hours are required for MSE students to obtain this certificate.

Transfer Students

Students transferring into Materials Science and Engineering from another university or program of study should meet with the director of Undergraduate Programs to discuss possible course substitutions and plan their remaining coursework.

Graduate Programs

Materials graduates are essential to the economic growth of the country. They contribute to the development, selection, and use of materials in all engineering and scientific applications. Master's and doctoral degrees in materials science and engineering are offered. An excellent selection of undergraduate courses is also offered in preparation and support of graduate studies. Course offerings and research activities cover a diversity of subjects in the broad field of materials. Subjects include biomaterials, nanotechnolgy, computational materials science, physical metallurgy, mechanical properties, fracture mechanics, corrosion phenomena, processing, thermodynamics and phase equilibria, non-destructive testing, X-ray analysis, phase transformations, glass science, electronic/ technical ceramics, thin-film semiconductors, electronic and optical microscopy, dispersions and rheology, refractories, surface analysis, fiber science, polymerization reaction engineering, polymer process simulation, mechanical properties of polymers, and process-structure-property characterization of polymers. For a listing of approved polymer courses, also see the listings in the Schools of Chemical Engineering and Polymer, Textile, and Fiber Engineering. State-of-the-art research facilities in the School of Materials Science and Engineering contribute to the strength of the program.

MSE graduates find employment with manufacturing firms in light and heavy industry, in research laboratories of private firms and federal agencies, and in academic institutions. Several recent graduates have filled positions of high responsibility in these areas and have been instrumental in advancing the level of materials engineering practice in the United States. The MSE faculty participate in numerous multidisciplinary programs including manufacturing engineering, surface science technology, microelectronics, electronic packaging, polymers, and composites.

Financial Aid

A number of fellowships and research assistantships from outside sources and industry are available to provide financial assistance for qualified graduate students. In addition, a limited number of presidential fellowships, as well as teaching and research assistantships, are available from the Institute. Further information can be obtained by contacting the director of graduate programs in the School of Materials Science and Engineering.

Composites Education and Research Center

The Composites Education and Research Center (CERC) is another interdisciplinary center similar to MPRL, providing students with the opportunity to participate in interdisciplinary coursework and research projects in the area of composites. An undergraduate-level certificate program is available to students of materials science and engineering in composites.

Mechanical Properties Research Laboratory

The Mechanical Properties Research Laboratory (MPRL) is an interdisciplinary laboratory that supports education and research programs in structural materials. Its principal activities are directed toward the measurement and modeling of the mechanical properties of engineering materials, primarily related to deformation, fatigue, and fracture. Graduate students participating in the MPRL benefit from the association with students and faculty from other departments in the interdisciplinary setting. In its role as an interdisciplinary umbrella organization for experimental research in mechanical properties of materials, MPRL provides a degree of coordination of equipment usage, training, and maintenance with the College of Engineering.

The Master's Degree

MSE offers graduate work leading to the degrees of Master of Science in Materials Science and Engineering, Master of Science in Paper Science and Engineering, and Master of Science with a major in materials engineering. The student admitted for graduate work will normally have completed an undergraduate program in materials, ceramics, metallurgy, or polymers. However, students with undergraduate degrees or backgrounds in other fields (e.g., physics, chemistry, geology, and chemical, mechanical, nuclear, or geological engineering) may qualify by taking certain minimum prerequisites during the early part of their graduate studies. To assure a smooth transition into the graduate program, the student should select appropriate electives during his or her undergraduate studies.

Students in the M.S. program must complete a core of graduate materials courses and prepare an individualized program of study for this degree in consultation with their graduate advisors. The proposed program must receive the approval of the graduate coordinator and the School chair. Thesis, nonthesis, and industrial internship options are available. The minimum credit hour requirements for the M.S. degree include nineteen credit hours of courses and a minimum of eleven credit hours of thesis research, or thirty-one credit hours of courses, or twenty-five hours of courses and six hours of project work conducted as part of an industrial internship. A total of twelve course hours must be in the major, and twelve course hours must be at the 6000 level or higher. A minimum GPA of 3.0 is required for graduation.

Master of Science in Materials, Science, and Engineering

The School of Materials Science and Engineering provides an array of options to both the Undergraduate and Graduate students. The Graduate degrees offered include a M.S. in Materials Science and Engineering with three program options (thesis, non-thesis, and industrial internship).

Master of Science in Paper Science and Engineering

The School of Materials Science and Engineering offers a Master of Science and Ph.D. in Paper Science and Engineering. The multidiscipinary degree covers engineering and science disciplines involved in the production of paper, tissue, and other products from natural fiber. Degree requirements include completion of all MSE core courses and degree requirements for the appropriate degree. In addition to satisfying curriculum requirements as set forth in the PSE curriculum, Ph.D. students take the qualifying examination in MSE. Individual programs of study are reviewed at the school level.

Master of Science in Bioengineering

The School of Materials Science and Engineering participates in the interdisciplinary program leading to a Master of Science and Ph.D. in Bioengineering and Biomedical Engineering. The program curriculum was developed by a broadly based faculty group with research activities in bioengineering and the life sciences. Students in the program are enrolled in a participating school, such as the School of Materials Science and Engineering, as their home department. The program is directed toward engineering graduates who wish to pursue a graduate degree in bioengineering or biomedical engineering rather than in a traditional field of engineering.

Master of Science in Polymers

The Master of Science in Polymers is offered through the Schools of Materials, Chemical & Biomolecular, and Polymer, Textile, and Fiber Engineering. The core course requirements for polymer degrees are the same in each school. This core is designed to provide a balanced treatment of the chemistry, physics, and engineering of polymeric materials. At the same time, the wide range of elective courses and research projects permits students to develop an in-depth knowledge of a particular area of polymer science and engineering. This combination of breadth and depth of study is vital for the successful performance of polymer scientists and engineering graduates.

Master of Science with a Major in Materials Science and Engineering

The School of Materials Science and Engineering offers M.S. degrees in MSE. An undesignated M.S. degree is also available for students with special interests. The degree requirements vary somewhat with the option being pursued.

B.S./M.S. Materials Science and Engineering (Five-year)

The School of Materials Science and Engineering (MSE) offers a five-year B.S./M.S. program for outstanding students who want to obtain a graduate degree in addition to their B.S. degree. The advanced degree provides the additional knowledge and specialization needed to further facilitate a technical career. As a participant in this program, students have an opportunity to work with individual faculty members on projects in one of the traditional or cutting-edge research areas in MSE. See **www.mse.gatech.edu** for more details.

The Doctoral Degree

The Doctor of Philosophy degree is directed to attain proficiency in the pursuit of independent scholarly work. The degree comprises coursework in the general principles of materials, with emphasis on metallurgy, polymers, ceramics, paper science and engineering, or electronic materials. Additional requirements include specialized courses both in the area of the doctoral thesis and in one or two other areas, passing comprehensive examinations, and an independent research investigation.

Candidates for the doctoral degree are required to complete at least twenty-two credit hours of graduate-level coursework beyond the M.S. degree, with a minimum GPA of 3.0, and pass the course-based and oral parts of the Ph.D. qualification examination. Each student must also earn nine credit hours in a coherent minor field, chosen in consultation with the advisor, to satisfy the School's core course requirements. Students should commence participation in the School's research programs early in their graduate careers.

Doctoral Program in Materials Science and Engineering

The School of Materials Science and Engineering offers a Master of Science and Ph.D. in Paper Science and Engineering. The multidiscipinary degree covers engineering and science disciplines involved in the production of paper, tissue, and other products from natural fiber. Degree requirements include completion of all MSE core courses and degree requirements for the appropriate degree. In addition to satisfying curriculum requirements as set forth in the MSE curriculum, Ph.D. students take the qualifying examination in MSE. Individual programs of study are reviewed at the school level.

Doctoral Program in Papaer Science and Engineering

The School of Materials Science and Engineering offers a Master of Science and Ph.D. in Paper Science and Engineering. The multidiscipinary degree covers engineering and science disciplines involved in the production of paper, tissue, and other products from natural fiber. Degree requirements include completion of all MSE core courses and degree requirements for the appropriate degree. In addition to satisfying curriculum requirements as set forth in the PSE curriculum, Ph.D. students take the qualifying examination in MSE. Individual programs of study are reviewed at the school level.

Doctoral Program in Bioengineering

The School of Materials Science and Engineering participates in the interdisciplinary program leading to a Master of Science and Ph.D. in Bioengineering and Biomedical Engineering. The program curriculum was developed by a broadly based faculty group with research activities in bioengineering and the life sciences. Students in the program are enrolled in a participating school, such as the School of Materials Science and Engineering, as their home department. The program is directed toward engineering graduates who wish to pursue a graduate degree in bioengineering or biomedical engineering rather than in a traditional field of engineering.

Minor in Materials Science and Engineering

For qualified Ph.D. students in other programs, a sequence of crosslisted courses in MSE (MSE 6795, 6796, and 6797) is available to introduce non-MSE students to advanced topics covering the broad field of materials. One or more of these courses along with other MSE courses can be used to satisfy the nine-credit-hour Institute minor requirement in other programs. Students wishing to participate in the MSE minor program must check with their advisor in their home school as to the appropriateness of the selected courses.

Woodruff School of Mechanical Engineering

Established in 1885
Location: Manufacturing Related
Disciplines Complex (MRDC)
Administrative Office: 404.894.3200
Undergraduate Office: 404.894.3203
Graduate Office: 404.894.3204
Fax: 404.385.4545
Web site: **www.me.gatech.edu**

General Information

Mechanical engineering (ME) was the first academic program established at Georgia Tech. On September 20, 1985, the School of Mechanical Engineering celebrated its centennial by assuming the name of one of its most distinguished alumni, Atlanta businessman and philanthropist George W. Woodruff (Class of 1917). Today, the Woodruff School offers undergraduate and graduate degrees in mechanical engineering, nuclear and radiological engineering, medical physics, bioengineering, and paper science.

Mechanical engineering traditionally deals with diverse engineering problems. Because of its general nature, mechanical engineering encourages a number of multidisciplinary activities to be conveniently organized within it. Mechanical engineering embraces the generation, conversion, transmission, and utilization of thermal and mechanical energy; the design and production of tools and machines and their products; the consideration of fundamental characteristics of materials as applied to design; and the synthesis and analysis of mechanical, thermal, and fluid systems, including the automation of such systems. Design, production, manufacture, operation, administration, economics, and research are functional aspects of mechanical engineering.

Nuclear and radiological engineering provides graduates with the professional flexibility to work in either nuclear power generation, radiation protection, or in non-power professions that use nuclear and radiation technology.

Nuclear engineering concerns the release, control, utilization, and environmental impact of energy from nuclear fission and fusion sources. Radiological engineering combines a knowledge of radiation physics and engineering fundamentals to design and analyze radiation sources and detection instruments, to measure dosage, to design protective shielding, and to handle radioactive materials.

Medical physics involves the application of physical principles to medicine, particularly in the diagnosis and treatment of human diseases. Medical physics includes diagnostic radiology, the diagnosis of disease with X-rays, ultrasound, and magnetic resonance imaging; health physics, the study of radiation hazards and radiation protection; nuclear medicine, the diagnosis and treatment of diseases with injected radio-pharmaceuticals; and radiation oncology, the treatment of cancer by ionizing radiation.

Faculty

Chair, Eugene C. Gwaltney Jr. School Chair and Regents' Professor
Ward O. Winer

Associate Chair for Graduate Studies and John M. McKenney and Warren D. Shiver Distinguished Chair in Building Mechanical Systems
Yogendra Joshi

Associate Chair for Administration and Professor
Christopher S. Lynch

Associate School Chair, Chair of the Nuclear and Radiological Engineering/Medical Physics Programs, and Professor
Farzad Rahnema

Associate Chair for Undergraduate Studies and Senior Academic Professional
David M. Sanborn

Southern Nuclear Distinguished Professor
Said Abdel-Khalik

HUSCO/ Ramirez Chair in Fluid Power and Motion Control
Wayne J. Book

Morris M. Bryan Jr. Chair in Mechanical Engineering for Advanced Manufacturing Systems
Steven Danyluk

George W. Woodruff Chair in Mechanical Systems
Jerry H. Ginsberg

George W. Woodruff Chair in Thermal Systems
Ari Glezer

Lawrence P. Huang Endowed Chair in Engineering and Entrepreneurship
David N. Ku

Morris M. Bryan Jr. Professorship in Mechanical Engineering for Advanced Manufacturing Systems
Steven Y. Liang

Carter N. Paden Distinguished Chair in Metals Processing
David L. McDowell

Associate Chair of the Woodruff School for the Georgia Tech Savannah Campus and Professor
Farrokh Mistree

Parker H. Petit Distinguished Chair for Engineering in Medicine
Robert M. Nerem

Rae and Frank H. Neely Chair in Mechanical Engineering
Peter H. Rogers

Georgia Power Distinguished Professor in Mechanical Engineering
Richard F. Salant

Fuller E. Callaway Professor in Nuclear Engineering
Weston M. Stacey Jr

David S. Lewis Chair in Aerospace Engineering
Ben T. Zinn

Regents’ Professor

Ajit P. Yoganathan

Professors

Frederick W. Ahrens, Kenneth A. Cunefare, Cyrus K. Aidun, Yves H. Berthelot, Bert Bras, Ye-Hwa Chen, Mohammed Cherkaoui, Jonathan S. Colton, Cassiano de Oliveira, Srinivas Garimella, Shreyes N. Melkote, S. Mostafa Ghiaasiaan, James L. Gole, Itzhak Green, Nolan E. Hertel, Peter J. Hesketh, Laurence J. Jacobs, W. Steven Johnson, Shreyes Melkote, Kok-Meng Lee, G. Paul Neitzel, David Orloff, David Parekh, Jianmin Qu, David W. Rosen, Suresh K. Sitaraman, Marc K. Smith, I. Charles Ume, Raymond P. Vito, William J. Wepfer, Minami Yoda, Min Zhou, Cheng Zhu

Associate Professors

Janet Allen, Daniel F. Baldwin, F. Levent Degertekin, Andrei G. Fedorov, Aldo A. Ferri, Ken Gall, Andrés J. García, Robert E. Guldberg, Karl Jacob, Sheldon M. Jeter, Jens O. M. Karlsson, Marc E. Levenston, Harvey Lipkin, Richard W. Neu, John G. Papastarvridis, Nader Sadegh, Samuel V. Shelton, William Singhose, Jeffrey L. Streator, C-K. Chris Wang, Zhuomin Zhang,

Assistant Professors

Rudolph Gleason, Samuel Graham, William P. King, Chris Paredis, Timothy Patterson, Wenjing Ye, Ting Zhu

School Facilities

The Woodruff School is housed in a multibuilding classroom/research complex. Included in this complex are modern classroom/seminar conference rooms that serve the entire Institute. The School has many types of specialized instruments and other equipment associated with its laboratories in mechanical engineering for the study of acoustics and dynamics; automation and mechatronics; bioengineering; computer-aided engineering and design; fluid mechanics; heat transfer, combustion, and energy systems; manufacturing; mechanics of materials; microelectromechanical systems; and tribology. The Nuclear and Radiological Engineering Program has special facilities for the study of fission, fusion, and medical physics.

Special facilities in the Woodruff School include laboratories dedicated to undergraduate use; the Integrated Acoustic Laboratory (anechoic chamber); a hi-bay area for research and testing; an underwater acoustic tank; a wind tunnel; and a clean room for MEMS fabrication. Laboratories include: Computer-Aided Simulation of Packaging Reliability Lab, Dynamics Properties Research Lab, Fluid Mechanics Research Laboratories, Composites Manufacturing Research Lab, Intelligent Machine Dynamics Laboratory, Mechanical Properties Research Lab, Precision Machining Research Consortium, Systems Realization Laboratory, Sustainable Thermal Systems Laboratory, and the Vascular and Biofluids Laboratory.

The facilities available for the nuclear engineering program include the Neely Research Center, which houses graphite subcritical assemblies, more than 120,000 curies of cobalt-60, a californium-252 source for use in neutron dosimetry studies, hot cells for handling radioactive materials, a complete nuclear instrumentation laboratory, nuclear radiography equipment, radiochemical laboratories, and facilities for analyzing environmental samples by nuclear techniques.

The Woodruff School in Savannah

Starting in fall 2006, the Woodruff School will establish the Woodruff School of Mechanical Engineering at Georgia Tech Savannah by developing programs that are complementary to those established in Atlanta. For more information about the Woodruff School in Savannah, view **www.gtsav.gatech.edu**.

Bachelor of Science in Mechanical Engineering

Program Educational Objectives

The educational objectives of the undergraduate programs in the Woodruff School are:

1. to prepare students for successful careers and lifelong learning;
2. to train students thoroughly in methods of analysis, including the mathematical and computational skills appropriate for engineers to use when solving problems;
3. to develop the skills pertinent to the design process, including the students' ability to formulate problems, to think creatively, to communicate effectively, to synthesize information, and to work collaboratively;
4. to teach students to use current experimental and data analysis techniques for engineering applications; and
5. to instill in our students an understanding of their professional and ethical responsibilities.

The undergraduate curriculum in mechanical engineering covers the fundamental aspects of the field, emphasizes basic principles, and educates the student in the use of these principles to reach optimal design solutions for engineering problems. Specific design subject matter and materials are also drawn from engineering activities such as biomechanical systems, as well as from the more traditional areas. Emphasis in the freshman and sophomore years is on mathematics, chemistry, physics, mechanics of materials, applied mechanics, graphic communications, and an introduction to design. The junior and senior years are devoted to thermodynamics, heat transfer, fluid mechanics, systems and controls, design, manufacturing, and the application of fundamentals to the diverse problems of mechanical engineering. The curriculum stresses laboratory work and design projects. Computer skills developed during the first two years are a prerequisite for junior- and senior-level courses. Satisfactory completion of the curriculum leads to the degree Bachelor of Science in Mechanical Engineering (B.S. ME).

In addition to the Institute's academic requirements for graduation with a bachelor's degree, the following are required for a B.S. ME degree:

1. A *C* or better must be earned in MATH 1501, MATH 1502, MATH 2401, and MATH 2403
2. The aggregate GPA of all mechanical engineering classes must be a 2.0 or higher

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Mechanical Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1371 COMPUTING FOR ENGINEERS	3
ME 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
ME 2016 COMPUTING TECHNIQUES	3
COE 2001 STATICS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
ME 2202 DYNAMICS OF RIGID BODIES	3
ME 2110 CREATIVE DECISIONS AND DESIGN	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	3
ECE 3710 CIRCUITS & ELECTRONICS	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
ME 3322 THERMODYNAMICS	3
ME 3340 FLUID MECHANICS	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
ECON 2100 or 2105 or 2106	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
ME 3015 SYSTEM DYNAMICS & CONTROL	4
ME 3345 HEAT TRANSFER	3
ENGINEERING ETHICS ELECTIVE(S)	3
CEE / MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR-FALL	HRS
ME 3057 EXPERIMENTAL METHODOLOGY & TECHNICAL WRITING	3
ME 3180 Machine Design or	

ME 4315 Energy Systems Analysis and Design	3
ME 4210 MANUFACTURING PROCESSES & ENGINEERING	3
MECHANICAL ENGINEERING ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
ME 4053 MECHANICAL ENGINEERING SYSTEMS LABORATORY	2
ME 4182 CAPSTONE DESIGN	3
MECHANICAL ENGINEERING ELECTIVE(S)	3
FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S) or HUMANITIES ELECTIVE(S) *	3
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

* Social Science or humanities required depending on ethics class selection. 12 hours of SS and 12 hours of HUM are required. If ethics selection is SS, then HUM required. If ethics selection is HUM, then SS required.

Mechanical Engineering Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities and Social Sciences

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. Modern languages are considered humanities electives.

The twelve hours of humanities are comprised of six hours of English composition classes and six hours of electives. The English composition classes are satisfied by ENG 1101 and ENG 1102 (English Composition 1 and 2).

The twelve hours of social sciences include three hours of economics, three hours of work in history and the constitutions of the United States and Georgia and six hours of social science electives. The three hours of economics is satisfied by either ECON 2100 (Economic Analysis and Policy Problems), ECON 2105 (Principles of Macroeconomics), or ECON 2106 (Principles of Microeconomics). The three hours of history and constitutions are satisfied by selecting one of the following courses: HIST 2111 (The United States to 1877), HIST 2112 (The United States Since 1877), POL 1101 (Government of the United States), PUBP 3000 (American Constitutional Issues), or INTA 1200 (American Government in Comparative Perspective).

ENGINEERING ETHICS ELECTIVE(S)-The six hours of social science electives and the six hours of humanities electives must include three hours of ethics. The ethics class can be selected from PST 3127 (Science, Technology, and Human Values), PST 3105 (Ethical Theories), PST 3109 (Ethics for Technical Professions), PST 4176 (Environmental Ethics), INTA 2030 (Ethics in International Affairs), or HTS 2084 (Technology and Society). The PST ethics courses are humanities electives, while the INTA and HTS ethics courses are social science electives. The remaining hours of social science electives and humanities electives must be selected from a list of core curriculum classes on pages 32-33.

Free Electives

Must be 2000 Level or Above, May not overlap any class used for the BSME

Mechanical Engineering Electives

3000 or 4000 level ME classes, not including 3720. May not overlap other classes used for BSME.

Science Electives

The three-hour science elective may be satisfied by classes from the following list: CHEM 1311 (Inorganic Chemistry) and CHEM 1312 (Inorganic Chemistry Lab) taken together, or one of the following: BIOL 1510 (Biology Principles), BIOL 1520 (Introduction to Organismal Biology), EAS 1600 (Introduction to Environmental Science), EAS 1601 (Habitable Planet), or PHYS 2213 (Modern Physics).

Bachelor of Science in Mechanical Engineering - International Plan

The Woodruff School is joining thirteen other programs at the Institute in the Undergraduate International Plan. This is a new degree designation, similar to the Cooperative Plan. Mechanical engineering students can spend two semester (a minimum of twenty-six weeks) abroad, gaining valuable international experience. This is especially important in today's global economy, where more companies are looking for graduates with international experience in their major area. Mechanical engineering students can spend a year at Georgia Tech Lorraine in Metz, France, at the Technical University in Munich, or at other approved locations.

In order to receive the B.S. ME-International Plan degree, students will have to meet several requirements. The first is to show proficiency in a language through at least the second year of study; a proficiency exam must be passed. The second requirement is specific coursework: international relations, global economy, and society/culture. The third requirement is for two semesters abroad (a minimum of twenty-six weeks). This can be done either in residence at a university, or one semester in residence plus one as an engineering intern, or both semesters as an intern. Finally, the student's capstone design experience must meet certain international requirements. Ideally, this would be a joint project including students from Georgia Tech and the selected school abroad. For more information this program, view **www.oie.gatech.edu**.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
INTERNATIONAL PLAN
2006-2007 DEGREE REQUIREMENTS
School Of Mechanical Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
CS 1371 COMPUTING FOR ENGINEERS	3
LANGUAGE II	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
LANGUAGE III	3
ME 1770 ENGINEERING GRAPHICS & VISUALIZATION	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
LANGUAGE IV	3
ME 2016 COMPUTING TECHNIQUES	3
COE 2001 STATICS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
ME 2202 DYNAMICS OF RIGID BODIES	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
ME 2110 CREATIVE DECISIONS AND DESIGN	3
ECE 3710 CIRCUITS & ELECTRONICS	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL * (ABROAD) *	HRS
GLOBAL ECONOMICS ELECTIVE	3
ME 3322 THERMODYNAMICS	3
ME 3340 FLUID MECHANICS	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING * (ABROAD) *	HRS
ME 3015 SYSTEM DYNAMICS & CONTROL	4
ME 3345 HEAT TRANSFER	3
INTERNATIONAL RELATIONS ELECTIVE	3
MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
ENGINEERING ETHICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
ME 3057 EXPERIMENTAL METHODOLOGY & TECHNICAL WRITING	3
ME 3180 MACHINE DESIGN OR ME 4315 ENERGY SYSTEMS ANALYSIS AND DESIGN	3
ME 4210 MANUFACTURING PROCESSES & ENGINEERING	3

HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
ME 4053 MECHANICAL ENGINEERING SYSTEMS LABORATORY	2
ME 4182 CAPSTONE DESIGN	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
SCIENCE ELECTIVE(S)	3
MECHANICAL ENGINEERING ELECTIVE	3
HTS 2084 TECHNOLOGY AND SOCIETY OR INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities and Social Sciences

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. Modern languages are considered humanities electives.

The twelve hours of humanities are comprised of six hours of English composition classes and six hours of electives. The English composition classes are satisfied by ENG 1101 and ENG 1102 (English Composition 1 and 2).

The twelve hours of social sciences include three hours of economics, three hours of work in history and the constitutions of the United States and Georgia and six hours of social science electives. The three hours of economics is satisfied by either ECON 2100 (Economic Analysis and Policy Problems), ECON 2105 (Principles of Macroeconomics), or ECON 2106 (Principles of Microeconomics). The three hours of history and constitutions are satisfied by selecting one of the following courses: HIST 2111 (The United States to 1877), HIST 2112 (The United States Since 1877), POL 1101 (Government of the United States), PUBP 3000 (American Constitutional Issues), or INTA 1200 (American Government in Comparative Perspective).

Engineering Ethics Elective(s)-The six hours of social science electives and the six hours of humanities electives must include three hours of ethics. The ethics class can be selected from PST 3127 (Science, Technology, and Human Values), PST 3105 (Ethical Theories), PST 3109 (Ethics for Technical Professions), PST 4176 (Environmental Ethics), INTA 2030 (Ethics in International Affairs), or HTS 2084 (Technology and Society). The PST ethics courses are humanities electives, while the INTA and HTS ethics courses are social science electives. The remaining hours of social science electives and humanities electives must be selected from a list of core curriculum classes on pages 32-33.

Free Electives

Must be 2000 Level or Above, May not overlap any class used for the B.S. ME

Mechanical Engineering Electives

3000 or 4000 level ME classes, not including 3720. May not overlap other classes used for B.S. ME.

Science Electives

The three-hour science elective may be satisfied by classes from the following list: CHEM 1311 (Inorganic Chemistry) and CHEM 1312 (Inorganic Chemistry Lab) taken together, or one of the following: BIOL 1510 (Biology Principles), BIOL 1520 (Introduction to Organismal Biology), EAS 1600 (Introduction to Environmental Science), EAS 1601 (Habitable Planet), or PHYS 2213 (Modern Physics).

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		

FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	

INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	

MGT 3660	International Business			

Bachelor of Science Nuclear and Radiological Engineering

The educational objectives of the undergraduate programs in the Woodruff School are:

1. to prepare students for successful careers and lifelong learning;
2. to train students thoroughly in methods of analysis, including the mathematical and computational skills appropriate for engineers to use when solving problems;
3. to develop the skills pertinent to the design process, including the students' ability to formulate problems, to think creatively, to communicate effectively, to synthesize information, and to work collaboratively;
4. to teach students to use current experimental and data analysis techniques for engineering applications; and
5. to instill in our students an understanding of their professional and ethical responsibilities.

The undergraduate curriculum in nuclear and radiological engineering is structured to meet the needs of both the student who contemplates employment immediately after graduation and the student planning to pursue graduate study. It provides maximum flexibility in the form of options for each student to develop his or her unique interests and capabilities. The core curriculum covers the basic principles of nuclear engineering, nuclear reactor core design, reactor systems engineering, nuclear power economics, reactor operations, radiation sources and detection instruments, radiation transport, radiation protection, critical safety, regulatory requirements, and radioactive materials management.

In addition to the Institute's academic requirements for graduation with a bachelor's degree, the following are required for a B.S. NRE degree.

1. A *C* or better must be earned in MATH 1501, MATH 1502, MATH 2401, MATH 2403, and ISYE/MATH 3770
2. The aggregate GPA of all NRE classes must be a 2.0 or higher

B.S. IN NUCLEAR AND RADIOLOGICAL ENGINEERING
2006-2007 DEGREE REQUIREMENTS
School Of Mechanical Engineering
Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
ENGL 1101 ENGLISH COMPOSITION I	3
CHEM 1310 GENERAL CHEMISTRY	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1371 COMPUTING FOR ENGINEERS	3
NRE 2110 INTRODUCTION TO NUCLEAR & RADIOLOGICAL ENGINEERING	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
COE 2001 STATICS	2
ECON 2100 or 2105 or 2106	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2213 INTRODUCTION TO MODERN PHYSICS	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
ECE 3710 CIRCUITS & ELECTRONICS	2
NRE 3212 FUNDAMENTALS OF NUCLEAR & RADIOLOGICAL ENGINEERING	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
NRE 3301 RADIATION PHYSICS	3
ME 3322 THERMODYNAMICS	3
ME 3340 FLUID MECHANICS	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
ECE 3025 ELECTROMAGNETICS	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
NRE 3316 RADIATION PROTECTION ENGINEERING	3
NRE 3112 NUCLEAR RADIATION DETECTION	3
MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
ME 3345 HEAT TRANSFER	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
NRE 4214 REACTOR ENGR	3
NRE 4328 RADIATION SOURCES AND APPLICATIONS	3

NRE 4204 NUCLEAR REACTOR PHYSICS	4
ETHICS ELECTIVE(S)	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
SOCIAL SCIENCE ELECTIVE(S)	3
NRE 4232 NUCLEAR & RADIOLOGICAL ENGINEERING DESIGN	4
TECHNICAL ELECTIVE(S)	6
NRE 4206 RADIATION PHYSICS LAB	2
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 124 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Nuclear and Radiological Engineering Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities, Social Sciences, and Modern Languages

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. Modern languages are considered humanities electives.

The twelve hours of humanities are comprised of six hours of English composition classes and six hours of electives. The English composition classes are satisfied by ENG 1101 and 1102 (English Composition 1 and 2).

The twelve hours of social sciences include three hours of economics, three hours of work in history and the constitutions of the United States and Georgia, and six hours of social science electives. The three hours of economics is satisfied by either ECON 2100 (Economic Analysis and Policy Problems), ECON 2105 (Principles of Macroeconomics), or ECON 2106 (Principles of Microeconomics). The three hours of history and constitutions are satisfied by selecting one of the following courses: HIST 2111 (The United States to 1877), HIST 2112 (The United States Since 1877), POL 1101 (Government of the United States), PUBP 3000 (American Constitutional Issues), or INTA 1200 (American Government in Comparative Perspective).

The six hours of social science electives and the six hours of humanities electives must include three hours of ethics. The ethics class can be selected from PST 3127 (Science, Technology, and Human Values), PST 3105 (Ethical Theories), PST 3109 (Ethics for Technical Professions), PST 4176 (Environmental Ethics), INTA 2030 (Ethics in International Affairs), or HTS 2084 (Technology and Society). The PST ethics courses are humanities electives, while the INTA and HTS ethics courses are social science electives. The remaining hours of social science electives and humanities electives must be selected from a list of core curriculum classes on pages 32-33.

Science Elective

No science electives are required.

Free Electives

No free electives are required for graduation.

Technical Electives

Technical electives may be any 3000- or 4000-level course in the Colleges of Engineering, Sciences, or Computing. This excludes psychology (PSYC) and applied physiology (APPH) courses. NRE courses at the 6000 level may also be scheduled, provided the student has a grade point average of 3.0 or higher and prior consent is obtained from the instructor.

A student completing his or her sophomore year with a grade point average of 2.5 or higher may elect one technical elective for a maximum of four credit hours from the Design Special Problem Course, NRE 4903 or the Research Special Problem Course, NRE 4699.

The Five-Year B.S./M.S. Program

The Woodruff School offers a five-year B.S./M.S. program for those students who demonstrate an interest in and ability for additional education beyond the B.S. degree. The program fosters intense interaction among students and faculty and includes mentoring and undergraduate research. Careful advising and course planning will enable students to begin graduate coursework in their fourth year of study. Woodruff School students with a GPA of 3.5 or higher are eligible to apply for the program after completion of thirty semester credit hours at Georgia Tech, but before the completion of seventy-five semester credit hours, including transfer and advanced placement credits.

Graduate Programs - General Information

Program Educational Objectives

The educational objectives of the doctoral programs in the Woodruff School are:

1. to prepare students for successful careers in industry and/or academia and to promote and instill an ethic for lifelong learning;
2. to educate students in methods of advanced analysis, including the mathematical, computational, and experimental skills appropriate for professionals to use when solving problems;
3. to provide a substantial depth of knowledge in a particular field or subfield of study that allows the student to be recognized as an expert;
4. to provide a breadth of knowledge in a minor field of study that fosters an awareness of and skill in interdisciplinary approaches to problem solving;
5. to develop the skills pertinent to the research process, including the students' ability to formulate problems, to synthesize and integrate information, to work collaboratively, to communicate effectively, and to publish the results of their research; and
6. to promote a sense of scholarship, leadership, and service among our graduates.

The educational objectives of the master's degree programs in the Woodruff School are:

1. to prepare students for successful careers in industry and to promote and instill an ethic for lifelong learning;
2. to educate students in methods of advanced analysis appropriate for professionals to use when solving problems;
3. to provide a depth of knowledge in a particular field of study that allows the student to apply innovative techniques to solve problems;
4. to provide a breadth of knowledge that fosters an awareness of and skill in interdisciplinary approaches to problem solving; and
5. to develop the skills pertinent to the research process, including the students' ability to formulate problems, to synthesize and integrate information, to work collaboratively, to communicate effectively, and to publish the results of their research (M.S. thesis students).

The graduate program in mechanical engineering offers advanced study and research in the areas of acoustics and dynamics; automation and mechatronics; bioengineering; computer-aided engineering and design; fluid mechanics; heat transfer, combustion, and energy systems; manufacturing; mechanics of materials; microelectromechanical systems; and tribology. The graduate programs lead to the degrees of Master of Science in Mechanical Engineering, Master of Science, Master of Science in Bioengineering, Master of Science in Paper Science and Engineering, and Doctor of Philosophy for qualified graduates having backgrounds in engineering, mechanics, mathematics, the physical sciences, or the biological sciences.

The master's degree requires a minimum of thirty approved credit hours. Students may elect to earn nine of these hours by writing a thesis, or they may earn all credit toward the degree through coursework. Six hours of credit for graduate courses taken as an undergraduate at Georgia Tech and used for credit toward the B.S. ME may be included in the M.S. program of study if the student graduated with an undergraduate grade point average of at least 3.5. Students must earn a graduate grade point average of at least 3.0 and satisfy all remaining requirements to be certified for the master's degree. Candidates for the Doctor of Philosophy degree must earn a graduate grade point average of at least 3.3. Students may obtain additional information about the programs by viewing the Woodruff School Handbook for Graduate Students. Every student enrolled must consult this source of information with respect to special rules and degree requirements.

The graduate program in nuclear and radiological engineering/medical physics leads to the degrees of Master of Science in Nuclear Engineering, Master of Science in Medical Physics, Master of Science, and Doctor of Philosophy. In nuclear and radiological engineering, students with a bachelor's degree in engineering pursue the Master of Science in Nuclear Engineering degree, while students with a Bachelor of Science degree in other fields enroll for the Master of Science degree. Depending on the career objectives of the student, the Woodruff School may encourage a thesis as part of the Master of Science program. Nuclear and radiological engineering students must earn a graduate grade point average of at least 3.0 and satisfy all remaining requirements to be certified for the master's degree.

The doctoral program is designed with great latitude to capitalize on variations in experience and interests of individual students. Candidates for the Doctor of Philosophy degree must earn a graduate grade point average of at least 3.3.

The Five-Year B.S./M.S. Program

The Woodruff School offers a five-year B.S./M.S. program for those students who demonstrate an interest in and ability for additional education beyond the B.S. degree. The program fosters intense interaction among students and faculty and includes mentoring and undergraduate research. Careful advising and course planning will enable students to begin graduate coursework in their fourth year of study. Woodruff School students with a GPA of 3.5 or higher are eligible to apply for the program after completion of thirty semester credit hours at Georgia Tech, but before the completion of seventy-five semester credit hours, including transfer and advanced placement credits.

Master of Science in Mechanical Engineering

The Woodruff School has a challenging graduate program that encompasses advanced study and research leading to the degree of Master of Science in Mechanical Engineering for qualified graduates with backgrounds in engineering, mechanics, mathematics, physical sciences, and life sciences. Most graduate coursework is elective, but the program of study must meet the Woodruff School's requirements of breadth, depth, and level. Graduate degrees in mechanical engineering can be completed through a combination of studies at Georgia Tech Lorraine, via video and online course offerings, or by attending classes at the Atlanta campus.

Master of Science in Medical Physics

The graduate program in medical physics leads to the degree of Master of Science in Medical Physics (M.S.M.P.) and a Doctor of Philosophy as an option under the Ph.D. program in nuclear engineering. The program focuses on the application of radiation to medicine, particularly in the diagnosis and treatment of human disease. In addition to the traditional on-campus M.S. program, a distance learning program leading to the M.S.M.P. degree is also offered to accommodate the needs of professionals in the field. A large number of medical physics practitioners in government and industry participate in the video-based program.

Three hours of credit for graduate courses taken as an undergraduate at Georgia Tech and used for credit toward an undergraduate degree in science or engineering may also be included in the M.S.M.E. dical physics program of study if the student graduated with an undergraduate grade point average of at least 3.5. Medical physics students must earn a graduate grade point average of at least 3.0 and satisfy all remaining requirements to be certified for the master's degree.

Master of Science in Nuclear Engineering

The graduate program in nuclear and radiological engineering/medical physics leads to the degrees of Master of Science in Nuclear Engineering, Master of Science in Medical Physics, Master of Science, and Doctor of Philosophy. In nuclear and radiological engineering, students with a bachelor's degree in engineering pursue the Master of Science in Nuclear Engineering degree, while students with a Bachelor of Science degree in other fields enroll for the Master of Science degree. Depending on the career objectives of the student, the Woodruff School may encourage a thesis as part of the Master of Science program. Nuclear and radiological engineering students must earn a graduate grade point average of at least 3.0 and satisfy all remaining requirements to be certified for the master's degree.

Master of Science in Paper Science and Engineering

The Master's (M.S.P.S.) and Ph.D. degrees in Paper Science and Engineering (PSE) provide an education in the science and engineering involved in the production of paper, tissue, and other products from natural fiber. PSE students are enrolled in a participating school (the home school) and, upon completion of the degree requirements, the home school (in this case, the Woodruff School) recommends the award of an M.S. or Ph.D. degree.

Master of Science (Undesignated)

The undesignated master's degree (M.S.) enables you to pursue a program of highly interdisciplinary coursework. For the undesignated degree, the major area is a coherent field of interest in the Woodruff School, but courses taken in the major area need not all have ME designations. Examples of major areas are acoustics and dynamics, bioengineering, materials science, MEMS, and thermal sciences. The list of major areas is limited only by the current interests of the faculty in the Woodruff School. The requirement for a major area is motivated by the need to have some coherent area of special expertise.

Practice-Oriented Masters Program

Very few programs exist today in the Untied States and around the world to produce any significant number of microelectronics packaging engineers. Individuals who arrive at careers in microelectronics packaging do so with a single discipline background in science or engineering and are trained by industry on the job. The dynamic and global nature of the industry, however, requires an entirely different approach. As a result of this need, the Packaging Research Center (PRC) faculty together with the Center's industry members, have developed the first entrepreneurial and practice-oriented certificate program in microelectronics systems packaging. The goal of this program is to provide students with the following knowledge and skills.

1. Deep packaging knowledge
2. Interdisciplinary and cross-functional skills
3. Hands-on work experience
4. Economics and management education
5. Industry experience
6. Exposure to international concepts

The certificate designates the technical focus while degrees are granted by participating units (Electrical and Computer Engineering, Mechanical Engineering, and Materials Science and Engineering).

The Practice-oriented Masters (POM) program is a response to industry's need for a strong professional Master's degree program for students planning to go immediately into industry rather than seeking a Ph.D. Therefore, the target population for the program is recent B.S. recipients in science and engineering, as well as junior engineers in the packaging industry. In 12 to 15 months, students gain an M.S. degree in engineering with a certificate in microelectronics packaging at a top- 10 ranked school, do a minor in Management and intern with a potential future employer.

The POM program is funded by a grant from the National Science Foundation, Engineering Education and Centers Office, through Georgia Tech's Packaging Research Center. The PRC provides the technical focus for the packaging certificate and PRC member companies provide internship sites. The packaging certificate demonstrates a critical level of packaging expertise to employers.

Distance Learning Programs

The Woodruff School offers working professionals the opportunity to enroll in many of its graduate courses through video, CD-ROM, or Internet technologies. The distance-learning program has the same admission, course, and degree requirements as those for graduate students attending classes at the Atlanta campus or at Georgia Tech Lorraine. Qualified individuals may complete the requirements for the master's degrees in mechanical engineering (M.S.M.E.) and medical physics (M.S.M.P.) by utilizing the distance-learning mode.

Dual Degree Program in Management

Through the dual degree program, qualified graduate students wishing to pursue an M.B.A. degree and a graduate degree in mechanical engineering can efficiently earn two graduate degrees in almost the same time it would take to earn the M.B.A. alone. For example, the M.B.A. program is normally sixty hours. For students pursuing a graduate degree in mechanical engineering, the length of the M.B.A. program is reduced to thirty-nine hours, with the area of concentration being the coursework in the mechanical engineering program. Students in the dual degree program take approximately thirty hours of required management core courses, plus nine hours of graduate management electives. Those interested in graduate degrees in management and in mechanical engineering should consult with advisors in the College of Management as well as the Woodruff School, because admissions requirements for both programs must be met.

Georgia Tech Lorraine (GTL)

The Woodruff School participates in Georgia Tech Lorraine (see page 19). The mechanical engineering program offered at GTL, which focuses on the M.S. degree, has the same admission, course, and degree requirements as those for graduate students in mechanical engineering attending classes on the Atlanta campus or through the distance learning mode. Students at GTL are enrolled in an M.S. program in mechanical engineering. Georgia Tech has a cooperative agreement with ENSAM, a leading institution for the study of mechanical and industrial engineering with eight campuses across France, including one in Metz.

Multidisciplinary Programs

Mechanical engineering students may plan electives that satisfy simultaneously the requirements of the degree program and a designated multidisciplinary field within the College of Engineering, thus earning both a graduate degree and a certificate indicating expertise in a related specialty. For a complete description of these and other multidisciplinary programs, contact us below.

Doctoral Program in Bioengineering

The Woodruff School participates in Georgia Tech's interdisciplinary bioengineering graduate program, offering both the M.S. and the Ph.D. degrees. The program enrolls students in a participating school (the home school) and upon completion of the degree requirements, the home school (the Woodruff School) recommends the award of the degree. Bioengineering research focuses on the development of new or improved physical and mathematical concepts and techniques that may be applied to problems in medicine and biology, including the development of new medical devices. The curriculum provides the flexibility to concentrate in special areas so that the training is both multidiciplinary and integrated. For more information, see **www.bioengineering.gatech.edu**.

Doctoral Program in Mechanical Engineering

The doctoral program is designed with great latitude to capitalize on variations in experience and interests of individual students. The Ph.D. degree recognizes proficiency and high achievement in research. Candidates for the Doctor of Philosophy degree must earn a graduate grade point average of at least 3.3.

Doctoral Program in Nuclear and Radiological Engineering

The graduate program in nuclear and radiological engineering/medical physics leads to the degrees of Master of Science in Nuclear Engineering, Master of Science in Medical Physics, Master of Science, and Doctor of Philosophy. The doctoral program is designed with great latitude to capitalize on variations in experience and interests of individual students (e.g., nuclear power engineering, radiological engineering, and medical physics). Candidates for the Doctor of Philosophy degree must earn a graduate grade point average of at least 3.3.

Doctoral Program in Paper Science and Engineering

The Master's (M.S.P.S.) and Ph.D. degrees in Paper Science and Engineering (PSE) provide an education in the science and engineering involved in the production of paper, tissue, and other products from natural fiber. PSE students are enrolled in a participating school (the home school) and, upon completion of the degree requirements, the home school (in this case, the Woodruff School) recommends the award of an M.S. or Ph.D. degree.

School of Polymer, Textile, and Fiber Engineering

Established in 1897
Location: Manufacturing Related Disciplines Complex I
Telephone: 404.894.2490
Fax: 404.894.8780
Web site: **www.ptfe.gatech.edu**

General Information

The School of Polymer, Textile, and Fiber Engineering has a strong focus on polymer engineering and the underpinning science of polymers, while retaining its historical connections with the textile industry and its expertise in textile and fiber technology. Polymers and fibers can be used to form engineered fibrous structures, which play critical, complex roles in fields such as space, aeronautics, automotives, medicine, safety, environmental control, sports, transportation and construction.

Multidisciplinary by nature, the field of polymer science and engineering encompasses, among other areas: the syntheses of polymers by nature and in the laboratory; plastics and fiber fabrication processes; design, engineering, and assembly of polymeric materials into one-, two-, and three-dimensional structures; modification of structural and functional properties through additives, blends and composites; and measurement of complex aesthetic and mechanical properties of polymer-based systems. The design and synthesis of new polymers and fibers, engineering new methods of assembling polymeric materials into useful products, and exploring new engineering applications of polymers and fibers are continually expanding.

The School of Polymer, Textile, and Fiber Engineering prepares students for rewarding careers in the polymer-fiber-textile-fabricated products (PFTFP) industrial complex. Graduates obtain positions in design, process and plant engineering, manufacturing, research, technical service, sales, product and process development, quality control, and corporate management. They participate in the design, development, manufacturing, and marketing of a broad range of polymeric materials and associated products. Many hold key decision-making positions at a young age.

Faculty

Chair and Professor

Anselm C. Griffin

Director of Undergraduate Affairs and Associate Professor

Mary Lynn Realff

Professors

Haskell W. Beckham, Wallace W. Carr, Fred L. Cook, Sundaresan Jayaraman, Satish Kumar, Youjiang Wang

Associate Professors

David G. Bucknall, Karl I. Jacob, Mohan Srinivasarao

Assistant Professors

Meisha L. Shofner, Yonathan Thio, Donggang Yao

Professors Emeriti

John L. Lundberg, Malcom B. Polk, Wayne C. Tincher

Research Scientist

Radhakrishnaiah Parachuru

Facilities

The School of Polymer, Textile, and Fiber Engineering is centered in the Manufacturing Related Disciplines Complex I Building, a modern classroom and laboratory facility. Well-equipped laboratories are also available for synthesis as well as chemical and physical characterization of polymers, fibers, and textile structures. Specialized equipment is available for, among other studies: NMR imaging, ink-jet printing, mechanics of fabric formation, polymer viscoelasticity, carbon nanotube enabled materials, advanced optical microscopy, polymer environmental stability experiments, modeling of polymer processing and polymer dynamics, electrospinning, polymer micro/nano-fabrication, hollow fiber technology, polymer blends, polymer synthesis, fiber-reinforced composite formation and testing, biodegradable polymeric materials, carbon and other high-performance fiber development, Smart Shirt technology, energy conservation, elastomer characterization, structural coloration, and water pollution studies. Machine shop and instrumentation facilities are also available.

Undergraduate Programs

General Information

The undergraduate program offers two tracks leading to the Bachelor of Science in Polymer and Fiber Engineering. Students may pursue the Polymer or Fiber track in a regular four-year program or under the five-year cooperative plan. Because of the multidisciplinary nature of polymers and fibers, the curricula stress broad, diverse academic backgrounds. Emphasis in the freshman and sophomore years is on mathematics, chemistry, and physics, and in the junior and senior years on materials science, polymer/textile chemistry and engineering, process dynamics, applied mechanics, and application of each field to the broad range of problems encountered in the industrial complex. The program allows students to select courses from a range of general and technical electives.

Since most of the polymer/fiber coursework is concentrated in the last two years of the programs, students from junior and community colleges can readily transfer into the School of Polymer, Textile, and Fiber Engineering. The Regents' Engineering Transfer Program (RETP) greatly facilitates such transfers. Eligible students may also enroll in the five-year B.S./M.S. degree program (see Graduate Programs).

Program Educational Objectives

The mission of the School of Polymer, Textile, and Fiber Engineering is to foster the development and growth of an innovative, vibrant, and globally competitive polymer, fiber, and textile products (PFTP) industrial complex by advancing and disseminating knowledge through world-class education and research. Therefore, the School has established the following set of program educational objectives:

1. Graduates will have a strong foundation in the fundamental aspects of polymer and fiber formation processes, structures, and properties.
2. Graduates will know the basic principles for selecting and designing structures and processes to meet the desired end-use applications.
3. Graduates will be prepared for engineering positions in the polymer, fiber, and textile products (PFTP) industrial complex.
4. Graduates will be prepared to enter graduate school for advanced study and research.

B.S. Polymer and Fiber Engineering - Fiber Track

The Fiber Track is multidisciplinary, with emphasis on design, development, and implementation of systems for fiber production, handling, and conversion into various value-added products. In this program, students enjoy further flexibility by tailoring their degree to a specific area of interest using six hours of approved elective hours. With these approved hours, students may work towards one of the numerous certificates offered by other schools on campus. Alternatively, they can take additional courses within the School of Polymer, Textile and Fiber Engineering to expand expertise in polymer, fiber and fabricated products specialty interest areas such as fiber conversion processes, composites, environmental issues, plant operations and color science.

Since most of the polymer/fiber coursework is concentrated in the last two years of the programs, students from junior and community colleges can readily transfer into the School of Polymer, Textile, and Fiber Engineering. The Regents’ Engineering Transfer Program (RETP) greatly facilitates such transfers. Eligible students may also enroll in the **five-year B.S./M.S. degree program**.

BACHELOR OF SCIENCE IN POLYMER AND FIBER ENGINEERING
FIBER TRACK
2006-2007 DEGREE REQUIREMENTS
School Of Polymer, Textile, And Fiber Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
CS 1371 COMPUTING FOR ENGINEERS	3
PTFE 1100 INTRODUCTION TO THE POLYMER, FIBER, TEXTILE, & FABRICATED PRODUCTS ENTERPRISES	1
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
ECON 2100 or 2105 or 2106	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
COE 2001 STATICS	2
CHEM 1315 SURVEY OF ORGANIC CHEMISTRY	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
ME 3322 THERMODYMANICS or CHEM 3411 PHYSICAL CHEMISTRY I	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
PTFE 2200 STRUCTURE & PROPERTIES OF FIBERS & POLYMERS	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
PTFE 3210 FUNDAMENTALS OF TRANSPORT	3
ECE 3710 CIRCUITS & ELECTRONICS	2
PTFE 4775 POLYMER SCIENCE & ENGINEERING I	3
ME 3340 FLUID MECHANICS	3
CEE / MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
PTFE 3200 YARN & FABRIC FORMATION	3
PTFE 3221 TEXTILE FORMATION & TESTING	2
PTFE 4776 POLYMER SCIENCE & ENGINEERING II	3
PTFE 3230 POLYMER & FIBER PROCESSING	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
PTFE 3220 TEXTILE OPERATIONS & MANAGEMENT METHODS	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
APPROVED ELECTIVE(S)	3
PTFE 4100 CHEMICAL PROCESSING OF TEXTILE MATERIALS	2
PTFE 4122 TEXTILE CHEMISTRY LAB	1
PTFE 4110 POLYMER & FIBER ENGINEERING DESIGN I	3
SOCIAL SCIENCE ELECTIVE(S)	3
ETHICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
PTFE 4210 POLYMER & FIBER ENGINEERING DESIGN II	3
PTFE 4761 INDUSTRIAL CONTROLS & MANUFACTURING	3
HUMANITIES ELECTIVE(S)	3
APPROVED ELECTIVE(S)	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 127 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences/Modern Languages Electives

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. Humanities consists of ENGL 1101, ENGL 1102, a three-hour **humanities elective**, and an ethics course (PST 3105, 3109, 3127, or 4176). Social sciences consists of a U.S. history/ government course (HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200), ECON 2100, and six hours of general **social science**.

Approved Electives

These electives must be approved by the School.

B.S. Polymer and Fiber Engineering - Polymer Track

The Polymer Track deals with the chemistry and properties of polymeric materials and the manufacturing of polymer-based products. Students are exposed to all aspects of fundamental polymer science and engineering, are trained to handle relevant unit operations (e.g., polymer extrusion), and address issues involving polymer chemistry. In this program, students enjoy further flexibility by tailoring their degree to a specific area of interest using seven hours of approved elective hours. With these approved hours, students may take additional courses within the School of Polymer, Textile, and Fiber Engineering or work towards one of the numerous certificates offered by other schools on campus.

Since most of the polymer/fiber coursework is concentrated in the last two years of the programs, students from junior and community colleges can readily transfer into the School of Polymer, Textile, and Fiber Engineering. The Regents' Engineering Transfer Program (RETP) greatly facilitates such transfers. Eligible students may also enroll in the **five-year B.S./M.S. degree program**.

BACHELOR OF SCIENCE IN POLYMER AND FIBER ENGINEERING
POLYMER TRACK
2006-2007 DEGREE REQUIREMENTS
School Of Polymer, Textile, And Fiber Engineering

Suggested Schedule

FIRST YEAR-FALL	HRS
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
CS 1371 COMPUTING FOR ENGINEERS	3
PTFE 1100 INTRODUCTION TO THE POLYMER, FIBER, TEXTILE, & FABRICATED PRODUCTS ENTERPRISES	1
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR-SPRING	HRS
MATH 1502 CALCULUS II	4
CHEM 1311 INORGANIC CHEMISTRY I	3
ENGL 1102 ENGLISH COMPOSITION II	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
ECON 2100 or 2105 or 2106	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
COE 2001 STATICS	2
CHEM 2311 ORGANIC CHEMISTRY I	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
CHEM 3411 PHYSICAL CHEMISTRY I	3
COE 3001 MECHANICS OF DEFORMABLE BODIES	3
PTFE 2200 STRUCTURE & PROPERTIES OF FIBERS & POLYMERS	3
CHEM 2312 ORGANIC CHEMISTRY II	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
ECE 3710 CIRCUITS & ELECTRONICS	2
PTFE 4775 POLYMER SCIENCE & ENGINEERING I	3
ISYE 3025 ESSENTIALS OF ENGINEERING ECONOMY	1
ME 3340 FLUID MECHANICS	3
CEE / MATH / ISYE 3770 STATISTICS & APPLICATIONS	3
LCC 3401 TECHNICAL COMMUNICATION PRACTICES	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-SPRING	HRS
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
PTFE 3210 FUNDAMENTALS OF TRANSPORT	3
PTFE 4776 POLYMER SCIENCE & ENGINEERING II	3
PTFE 3230 POLYMER & FIBER PROCESSING	3
ECE 3741 INSTRUMENTATION & ELECTRONICS LAB	1
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
APPROVED ELECTIVE(S)	4
PTFE 4140 POLYMER SOLUTIONS & SURFACES	3
PTFE 4141 POLYMER CHARACTERIZATION	4
PTFE 4110 POLYMER & FIBER ENGINEERING DESIGN I	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	HRS
PTFE 4210 POLYMER & FIBER ENGINEERING DESIGN II	3
PTFE 4761 INDUSTRIAL CONTROLS & MANUFACTURING	3
ETHICS ELECTIVE(S)	3
APPROVED ELECTIVE(S)	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 127 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences/Modern Languages Electives

A total of twelve credit hours of humanities andtwelve credit hours of social sciences is required. Humanities consists of ENGL 1101, ENGL 1102, a three-hour **humanities elective***, and an ethics course (PST 3105, 3109, 3127, or 4176). Social sciences consists of a U.S. history/ government course (HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200), ECON 2100, and six hours of general **social science**.

Approved Electives

These electives must be approved by the School.

B.S./M.S. Polymer, Textile, and Fiber Engineering (Five-year)

Current undergraduate students may participate in the five-year B.S./M.S. program offered by the School of Polymer, Textile, and Fiber Engineering. Georgia Tech undergraduate students may be admitted into the program upon completion of thirty semester credit hours at Georgia Tech and attaining a GPA of 3.5 or higher. Students must maintain a 3.0 GPA to continue in the program.

Minor and Certificate Programs for Non-majors

The School offers two certificate programs and one minor program. A substantial number of students graduating in other majors at Georgia Tech enter the PFTFP industry. Minor and certificate programs have been implemented in polymer/fiber enterprise management. The certificate program is designed to impart basic understanding of polymer/fiber materials, as well as an understanding of their manufacturing processes. The Minor in Polymer/Fiber Enterprise Management is designed to provide more in-depth understanding of polymer/fiber materials and their manufacturing processes through a combination of required and elective courses. Attainment of the certificate requires twelve credit hours of specified courses. Attainment of a minor requires nineteen credit hours of specified courses. Both the certificate and minor programs draw on some of the courses taught for the School's undergraduate degree program. Requirements for the minor and certificate programs are available in the School's main office or at **www.ptfe.gatech.edu**.

The School also offers a multidisciplinary certificate program in Polymer Engineering and Polymers. The objective of the Polymers Certificate Program is to provide students with a structured program for an in-depth study of polymers. Programs of study will be structured to meet the needs and to fit the background of individual students. Required courses will cover the areas of polymer production, polymer chemistry, measurement of polymer structure and properties, and polymer processing. Opportunities are available for independent research. The certificate program requires six credit hours of specified courses and six hours of electives selected from a list of courses. The director of undergraduate affairs acts as advisor for all certificate and minor programs.

B.S./M.S. Polymer, Textile, and Fiber Engineering (Five-year)

Current undergraduate students may participate in the five-year B.S./M.S. program offered by the School of Polymer, Textile, and Fiber Engineering. Georgia Tech undergraduate students may be admitted into the program upon completion of thirty semester credit hours at Georgia Tech and attaining a GPA of 3.5 or higher. Students must maintain a 3.0 GPA to continue in the program.

Master of Science with a Major in PTFE

The Master of Science Degree has both thesis and non-thesis options, while the Master of Science in Polymers has only the thesis option. The graduate student will work with the faculty advisor to develop a program of study consistent with the student's educational objectives and the School's mission.

For Ph.D. and M.S. program requirements, please refer to the PTFE Web site at **www.ptfe.gatech.edu**.

Master of Science in Polymers - Polymer Materials Science Track

The School of Polymer, Textile, and Fiber Engineering offers graduate programs leading to the degree Master of Science in Polymers (Polymer Materials Science track). Students holding an undergraduate degree in any one of several fields of science or engineering may qualify for admission. The School participates in the **Graduate Course Option** Program.

The M.S. and Ph.D. programs encompass advanced study and research in such broad areas as: advanced polymer characterization techniques, biomedical applications of polymers, functional polymers and systems, modeling and simulation, nano-structured polymers and nanocomposites, polymer processing (including micro- and nano-fabrication), polymer synthesis and characterization, sustainability and polymer recycling.

For Ph.D. and M.S. program requirements, please refer to the PTFE Web site at **www.ptfe.gatech.edu**.

Master of Science in Polymers - Polymer Chemistry Track

The School of Polymer, Textile, and Fiber Engineering offers graduate programs leading to the degree Master of Science in Polymers (Polymer Chemistry track). Students holding an undergraduate degree in any one of several fields of science or engineering may qualify for admission. The School participates in the Graduate Course Option Program.

The M.S. and Ph.D. programs encompass advanced study and research in such broad areas as: advanced polymer characterization techniques, biomedical applications of polymers, functional polymers and systems, modeling and simulation, nano-structured polymers and nanocomposites, polymer processing (including micro- and nano-fabrication), polymer synthesis and characterization, sustainability and polymer recycling.

For Ph.D. and M.S. program requirements, please refer to the PTFE Web site at **www.ptfe.gatech.edu**.

Doctoral Program in PTFE - Polymer Materials Science TRACK

The School of Polymer, Textile & Fiber Engineering offers a Doctor of Philosophy. Ph.D. studies in the field of polymers may follow either the Polymer Materials Science or the Polymer Chemistry track. Students holding an undergraduate or master's degree in any one of several fields of science or engineering may qualify for admission. Each student pursues an individually structured program. The School participates in the **Graduate Course Option** Program.

Ph.D. programs encompass advanced study and research in such broad areas as: advanced polymer characterization techniques, biomedical applications of polymers, functional polymers & systems, modeling and simulation, nano-structured polymers & nanocomposites, polymer processing (including micro- & nano-fabrication), polymer synthesis and characterization, sustainability and polymer recycling.

For Ph.D. and M.S. program requirements, please refer to the PTFE Web site at **www.ptfe.gatech.edu**

Doctoral Program in PTFE - Polymer Chemistry Track

The School of Polymer, Textile & Fiber Engineering offers a Doctor of Philosophy. Ph.D. studies in the field of polymers may follow either the Polymer Materials Science or the Polymer Chemistry track. Students holding an undergraduate or master's degree in any one of several fields of science or engineering may qualify for admission. Each student pursues an individually structured program. The School participates in the **Graduate Course Option** Program.

Ph.D. programs encompass advanced study and research in such broad areas as: advanced polymer characterization techniques, biomedical applications of polymers, functional polymers & systems, modeling and simulation, nano-structured polymers & nanocomposites, polymer processing (including micro- & nano-fabrication), polymer synthesis and characterization, sustainability and polymer recycling.

For Ph.D. and M.S. program requirements, please refer to the PTFE Web site at **www.ptfe.gatech.edu**

College of Management

Established in 1913 as the School of Commerce
Location: 800 West Peachtree Street
Telephone: 404.894.2600 or 404.894.2624
Fax: 404.894.6030
Web site: **http://mgt.gatech.edu**

General Information

The College of Management offers a full range of undergraduate and graduate programs. The undergraduate program in management leads to the Bachelor of Science degree. The Master of Business Administration (M.B.A.) is a full-time, two-year program of study. The Executive Master of Science in Management of Technology (E.M.S.M.O.T.) is for professionals who wish to continue their careers while earning a master's degree. The College also offers a Master of Science in Quantitative and Computational Finance as well as an undesignated Master of Science degree. The doctoral program leads to a Ph.D. in Management. The College is accredited by the American Assembly of Collegiate Schools of Business (AACSB).

The College is committed to being a recognized leader in developing business leaders to operate in changing technological environments. Programs combine excellence in the functional areas of business education with the multidisciplinary focus on management of technology, international business, and entrepreneurial and innovative processes and e-business for a global economy. Programs equip students to create value that will make a social and economic difference in the lives of individuals, groups, communities, and societies. Through a curriculum that emphasizes collaborative learning based on real-world experience, the College offers the resources of multidisciplinary centers in international business, entrepreneurship, e-business, and management of technology that foster research, teaching excellence, and dialogue across the major functional areas of management.

The use of computers is an integral part of each program. Both undergraduate and M.B.A. students are required to have their own computers.

For more information, visit: **http://mgt.gatech.edu**.

Faculty

Dean and Tedd Munchak Chair
Terry C. Blum

Senior Associate Dean for Corporate and Professional Programs and Professor
Nate Bennett

Associate Dean for Faculty and Research and Fuller E. Callaway Chair and Professor
Eugene E. Comiskey

Director of Graduate Programs
Ann Johnston Scott

Executive Director of Corporate Programs
James Kranzusch

Director of M.B.A. Career Development
Mary McRee

Director of Undergraduate Programs
Nancy Gimbel

Faculty Director of E.M.S.M.O.T., Faculty Director for Information Technology, and Associate Professor
Dennis Nagao

Director of M.B.A. Admissions
Paula Wilson

Regents’ Professor
Naresh K. Malhotra

Hal and John Smith Chair in Entrepreneurship, Professor and Executive Director, Technology Innovation : Generating Economic Returns (TI:GER)
Marie Thursby

Thomas R. Williams Chair in Finance and Professor
Cheol Eun

INVESCO Chair and Professor, Director, GT Financial Reporting and Analysis Lab
Charles Mulford

Gary T. and Elizabeth R. Jones Chair in Management and Professor
David Herold

Professor and Director of the Center for International Business Education and Research
John R. McIntyre

Clinical Professor of Management
Michael Cummins

Director of Technology Innovation: Generating Economic Returns (TI:GER)
Carolyn Davis

Executive in Residence for Global Technology, Entrepreneurship, and Commercialization
Nick Voigt

Professors
Lloyd Byars, Yih-Long Chang, Bryan Church, Don Fedor, Cheryl Gaimon, Soumen Ghosh, Lawrence James, Narayanan Jayaraman, Sundaresan Jayaraman (joint appointment), David Ku, Sridhar

Narasimhan, Charles Parsons, Leonard Parsons, Arnold Schneider, Christina Shalley, Vinod Singhal,

Emeriti Professors

Philip Adler, Fred C. Allvine, Andrew J. Cooper, Robert Hawkins, Richard Teach

Associate Professors

Goutam Challagalla, , Ajay Khorana, Luis Martins, Saby Mitra, L. Beril Toktay, Deborah Turner, Francis Ulgado, Dongjun Wu

Assistant Professors

Timothy Carroll, Marco Ceccagnoli, Rajesh Chakrabarti, Alka Citrin, Jonathan Clarke, Rui Dai, Pat Dickson, Mark Ferguson, Ingrid Fulmer, Stuart Graham, Matthew Higgins, Xi (Jason) Kuang, Seo Yeon (Suzanne) Lee, Minqiang Li, Nicholas Lurie, Stylianos Kavadias, Frank Rothaermel, Jeff Stratman, Ravi Subramanian, Koert van Ittersum, Nancy Wong, Han Zhang

Lecturer

Robert Burgess

Academic Professionals

Robert Thomas, Stuart Milne

Bachelor of Science in Management

Students with a broad interest in all management activities and operating problems should profit from the management degree program. The program builds upon knowledge of the functional, environmental, behavioral, and legal aspects of business and provides analytical and conceptual tools for analyzing complicated problems. It prepares the student for managerial responsibilities and decision making. The large number of elective hours allows the student to tailor a program to his or her individual educational objectives. Students may take a concentration of electives in areas such as finance, accounting, marketing, operations management, international management, and information technology management.

BACHELOR OF SCIENCE IN MANAGEMENT

2006-2007 DEGREE REQUIREMENTS

College Of Management

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
WELLNESS	2
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COMPUTING REQUIREMENT	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
ACCT 2101 ACCOUNTING I : FINANCIAL ACCOUNTING	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2106 LEGAL, SOCIAL, & ETHICAL ASPECTS OF BUSINESS	3
ACCT 2102 ACCOUNTING II :MANAGERIAL ACCOUNTING	3
MGT 2251 INTRODUCTION TO MANAGEMENT SCIENCE	3
MGT 2200 MANAGEMENT APPLICATIONS OF INFORMATION TECHNOLOGY	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
MGT 3062 FINANCIAL MANAGEMENT	3
MGT 3101 ORGANIZATIONAL BEHAVIOR	3
MGT 3102 HUMAN RESOURCES	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
MGT 3300 MARKETING MANAGEMENT I	3
MGT 3501 OPERATIONS MANAGEMENT	3
MGT 3660 INTERNATIONAL BUSINESS	3
MANAGEMENT ELECTIVE(S)	3
NON MANAGEMENT ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
MANAGEMENT ELECTIVE(S)	12
NON MANAGEMENT ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
MGT 4195 STRATEGIC MANAGEMENT	3
MANAGEMENT ELECTIVE(S)	3
FREE ELECTIVE(S)	11
TOTAL SEMESTER HOURS =	**17**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Free Electives

Students must complete fourteen semester hours of free electives. These electives may be selected from any academic area, including the College of Management. These courses may not be required otherwise by this curriculum or used elsewhere in this curriculum. An unlimited number of hours of HPS courses is allowed. A maximum nine pass/fail hours are allowed. The student must consult the institute rules for the **pass/fail system** and/or obtain advising in the College of Management Office of Undergraduate Programs regarding allowable pass/fail hours.

Humanities Electives

Students are required to complete twelve hours of humanities, including six hours of required courses, ENGL 1101 and ENGL 1102, from **Core Area A**. In addition, they are required to complete six hours of humanities selected from **Core Area C**. Humanities electives transferred from other institutions may be used to fulfill this twelve-hour requirement. Note: Any courses completed that were listed in prior catalogs as satisfying the Humanities requirement and were completed while that catalog was in effect may also be used to satisfy this requirement.

Mathematics Elective

Students must complete eight hours of mathematics electives to be selected from MATH 1501 or MATH 1712 and MATH 1502 or MATH 1711.

Non-College of Management Electives

Students must complete six semester hours of non-College of Management electives. These courses may be selected from any academic area outside the College of Management. HPS courses are not allowed. The courses must be taken on a letter-grade basis.

Pass/Fail Courses

Up to nine credit hours in the named category of free electives may be taken on a pass/fail basis if no nonresident credit has been awarded. See the institute rules for the **pass/fail system**.

Prerequisites

Management majors should complete all required 2000-level management courses prior to registering for 3000- and 4000-level management courses. Course prerequisites are enforced.

College of Management Electives

Students must complete eighteen hours of College of Management electives. Management courses not otherwise required for the degree will satisfy this requirement. These electives may not be taken pass/fail.

Social Sciences Elective

Students must complete twelve hours of social science electives. Students are required to complete the Untied States and Georgia history and constitution requirement with three semester hours selected from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. Students must complete six hours of economics: ECON 2105 and ECON 2106. Three additional semester hours of social science are to be completed and may be selected from **CORE AREA E**.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Bachelor of Science in Management - International Plan #1

The International Plan degree option is available to all College of Management undergraduate students. This option has been specifically designed to increase the international competence of our students through foreign language instruction, selected international courses, overseas residential experience, and a capstone, culminating course. This international competence is characterized by a graduate's ability to communicate in a second world language, discuss substantively the major international socio-economic processes, assimilate into foreign lifestyles and work environments, and communicate with confidence the specifics of management and business in a global context. Given the ever increasing pace of globalization of business, this option should help the students prepare for the business world of the future. Students planning to complete two semesters of coursework abroad should pursue the International Plan-Option #1. Students planning to complete one semester of coursework abroad and one semester-long internship abroad should pursue the International Plan-Option #2. All Management students should seek advising through the College of Management **Undergraduate Programs Office**.

BACHELOR OF SCIENCE IN MANAGEMENT
WITH "INTERNATIONAL PLAN" DESIGNATOR-OPTION #1
2006-2007 DEGREE REQUIREMENTS
College Of Management

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LANGUAGE I **	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LANGUAGE II **	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MGT 2200 MANAGEMENT APPLICATIONS OF INFORMATION TECHNOLOGY	3
MGT 2250 MANAGEMENT STATISTICS	3
ACCT 2101 ACCOUNTING I : FINANCIAL ACCOUNTING	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
LANGUAGE III **	3
MGT 3101 ORGANIZATIONAL BEHAVIOR	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
LANGUAGE IV **	3
ACCT 2102 ACCOUNTING II :MANAGERIAL ACCOUNTING	3
MGT 2251 INTRODUCTION TO MANAGEMENT SCIENCE	3
MGT 3660 INTERNATIONAL BUSINESS (SATISFIES THE GLOBAL ECONOMICS ELECTIVE REQUIREMENT)	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-FALL * (ABROAD) *	HRS
MGT 3300 MARKETING MANAGEMENT I	3
TRANSITIONAL LANGUAGE ***	3
MGT 3501 OPERATIONS MANAGEMENT	3
MGT 3062 FINANCIAL MANAGEMENT	3
COUNTRY or REGIONAL ELECTIVE ***	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING * (ABROAD) *	HRS
INTERNATIONAL RELATIONS ELECTIVE ***	3
MANAGEMENT ELECTIVE(S)	6
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-FALL	HRS

MGT 2106 LEGAL, SOCIAL, & ETHICAL ASPECTS OF BUSINESS	3
MANAGEMENT ELECTIVE(S)	6
WELLNESS	2
MGT 3102 HUMAN RESOURCES	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
MGT 4195 STRATEGIC MANAGEMENT (CULMINATING INT'L PLAN COURSE)	3
MANAGEMENT ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

MANAGEMENT ELECTIVES = 18 HOURS
NON MANAGEMENT ELECTIVES = 6 HOURS
FREE ELECTIVES = 14 HOURS

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

****** Possible **Institute Approved Humanities or Non Mgt Elective**
******* Possible **Free Elective or Non Mgt Elective**

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Management - International Plan #2

The International Plan degree option is available to all College of Management undergraduate students. This option has been specifically designed to increase the international competence of our students through foreign language instruction, selected international courses, overseas residential experience, and a capstone, culminating course. This international competence is characterized by a graduate's ability to communicate in a second world language, discuss substantively the major international socio-economic processes, assimilate into foreign lifestyles and work environments, and communicate with confidence the specifics of management and business in a global context. Given the ever increasing pace of globalization of business, this option should help the students prepare for the business world of the future. Students planning to complete two semesters of coursework abroad should pursue the International Plan-Option #1. Students planning to complete one semester of coursework abroad and one semester-long internship abroad should pursue the International Plan-Option #2. All Management students should seek advising through the College of Management **Undergraduate Programs Office**.

BACHELOR OF SCIENCE IN MANAGEMENT
WITH "INTERNATIONAL PLAN" DESIGNATOR-OPTION #2
2006-2007 DEGREE REQUIREMENTS
College Of Management

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LANGUAGE I **	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LANGUAGE II **	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MGT 2200 MANAGEMENT APPLICATIONS OF INFORMATION TECHNOLOGY	3
MGT 2250 MANAGEMENT STATISTICS	3
ACCT 2101 ACCOUNTING I : FINANCIAL ACCOUNTING	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
LANGUAGE III **	3
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
TOTAL SEMESTER HOURS =	**18**

SECOND YEAR-SPRING	HRS
MGT 2106 LEGAL, SOCIAL, & ETHICAL ASPECTS OF BUSINESS	3
LANGUAGE IV **	3
ACCT 2102 ACCOUNTING II :MANAGERIAL ACCOUNTING	3
MGT 2251 INTRODUCTION TO MANAGEMENT SCIENCE	3
MGT 3101 ORGANIZATIONAL BEHAVIOR	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-FALL	HRS
MGT 3300 MARKETING MANAGEMENT I	3
MGT 3062 FINANCIAL MANAGEMENT	3
MGT 3501 OPERATIONS MANAGEMENT	3
MGT 3660 INTERNATIONAL BUSINESS (SATISFIES THE GLOBAL ECONOMICS ELECTIVE REQUIREMENT)	3
COUNTRY or REGIONAL ELECTIVE ***	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING * (ABROAD) *	HRS
INTERNATIONAL RELATIONS ELECTIVE ***	3
MANAGEMENT ELECTIVE(S)	6
TRANSITIONAL LANGUAGE ***	3
TOTAL SEMESTER HOURS =	**12**

Summer Term: Internship Abroad

FOURTH YEAR-FALL	**HRS**
MANAGEMENT ELECTIVE(S)	9
WELLNESS	2
MGT 3102 HUMAN RESOURCES	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
MGT 4195 STRATEGIC MANAGEMENT (SATISFIES THE CULMINATING INT'L PLAN COURSE REQUIREMENT)	3
MANAGEMENT ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**14**

MANAGEMENT ELECTIVES = EIGHTEEN HOURS
NON MANAGEMENT ELECTIVES = 6 HOURS
FREE ELECTIVES = 14 HOURS
TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

** Possible **Institute Approved Humanities or Non Mgt Elective**
*** Possible **Free Elective or Non Mgt Elective**

Certificate Programs

In addition to its degree programs, the College of Management offers students in good standing an opportunity to broaden their areas of expertise or acquire skills or information beyond their major degree requirements. Students who satisfactorily complete this special program will receive a certificate of recognition.

The following certificate programs are available for undergraduate students:

1. Accounting
2. Engineering Entrepreneurship
3. Finance
4. Information Technology Management
5. International Management
6. Marketing
7. Technology and Operations Management

Transfer Credit Policy for Undergraduate Students

Students may transfer courses taken at another accredited institution if the courses are passed with a *C* or better and are deemed by the College of Management to be equivalent to a Georgia Tech course. Such courses will be transferred for the same number of credits as the corresponding College of Management courses, provided they are equal to three or more semester hours of credit.

For institutions within the University System of Georgia, the total number of credit hours transferred for courses within the core curriculum* will match the number of credit hours granted by the originating institution. Hours of credit in excess of the corresponding Georgia Tech courses may be transferred only as free electives. For courses taken outside the core curriculum, the rules in the previous paragraph will apply.

Junior- or senior-level courses with three or more semester hours of credit that have no corresponding College of Management course may transfer as electives in management if they are approved by the College of Management.

Because of the difference in the intellectual level of various courses, freshman- or sophomore-level courses taken at other institutions may only be transferred for equivalent freshman- or sophomore-level courses offered at Georgia Tech. ***** Exception: University System of Georgia schools may transfer the equivalent of MGT 2106, Business Law and Ethics, if taught at the freshman level. Business Law and Ethics has been designated as a core course.

***** Core curriculum for this purpose may be defined as 2000-level Management courses plus Business Law and Ethics.

Master of Business Administration (M.B.A.)

The M.B.A. program provides a professional management education for students with baccalaureate degrees in any discipline. Calculus is the only prerequisite. The M.B.A. is an innovative and rigorous two-year, full-time program with a technical and quantitative instructional focus. Highly qualified candidates from all academic backgrounds enter the program, which is designed to foster teamwork and a closely knit class.

Excellence in management education has long been a hallmark of Georgia Tech. The Georgia Tech M.B.A. helps students develop the skills they will need to effectively manage changing technological environments in the twenty-first century, and the vision and ingenuity to become valued leaders in their fields. At Georgia Tech, M.B.A. students are exposed to the social, environmental, political, and international factors shaping the global marketplace. Some of the primary advantages of the M.B.A. program include a close-knit community that promotes enriched student-faculty relationships; classmates with diverse educational and work experiences; intimate class sizes that foster group cooperation and a true understanding of the business environment; an innovative curriculum that keeps pace with the rapidly changing environment of technology management; and a wide range of educational, social, and professional opportunities in the metro-Atlanta area.

In the summer term between the first and second academic years, M.B.A. students work in summer internships with both major employers and small entrepreneurial ventures. Summer internships enhance permanent employment opportunities.

The M.B.A. program requires sixty-one hours; thirty-one semester hours are required core classes. These courses develop a common core of knowledge essential to all M.B.A. students. The remainder of the curriculum consists of electives, which provide flexibility for students to build competence in one or more concentration areas. This freedom permits each student to fashion a curriculum directed toward individual educational and career goals.

M.B.A. concentration areas include accounting, finance, information technology, international business, marketing, operations management, organizational behavior, and strategic management. Students may also earn a certificate in entrepreneurship, international business, or management of technology.

Entry is in the fall semester only, and enrollment is strictly full-time. As there are no graduate management courses offered in the summer, students are encouraged to participate in the M.B.A. summer internship program.

Applicants to the M.B.A. program should note that supplementary application materials are required by the College of Management, in addition to those requested by Georgia Tech's **Office of Graduate Admissions and Enrollment Services**.

Applications and viewbooks are available online at **www.mgt.gatech.edu/mba**.

For more information, call 404.894.8722 or contact the:

College of Management Graduate Office
Georgia Institute of Technology
Atlanta, Georgia 30308-0520

The undesignated Master of Science degree program serves students whose educational and career goals may not be best served by the M.B.A. program. Under these circumstances, the student can pursue a specially tailored master's-level curriculum that satisfies the American Assembly of Collegiate Schools of Business (AACSB) common body of knowledge requirements and provides a coherent concentration of elective courses chosen in consultation with an academic advisor. This specialized degree program is designed primarily for students who are admitted to Georgia Tech on approved foreign education programs. Admission to this program must be approved by the M.B.A. Admission Committee prior to enrollment.

Global Executive Master of Business Administration

Today's business leaders must understand how to acquire, organize, and manage resources from around the globe. Are you prepared? In less than eighteen months, you can gain the skills you need to excel in the global economy through Georgia Tech College of Management's GlobalTeam EMBA program.

Qualified candidates for the GlobalTeam E.M.B.A. will have several years of professional work experience, during which they will ideally have demonstrated increased responsibility, professional growth, and leadership. The individual should be highly motivated to develop business skills critical for leaders in a global environment.

Students will participate in four residencies during the seventeen-month long program. During each residency, students will attend classes, visit companies, attend cultural events, and most importantly, work on building a true understanding of global business issues. Between each residency, students spend a semester of alternating weekends on campus at Georgia Tech in a highly interactive classroom format taught by the College's most accomplished faculty.

The GlobalTeam E.M.B.A. provides a strong foundation to assume even greater leadership responsibilities within a company. Graduates will develop additional expertise in managing in a global setting. Through successful completion of the program participants will earn a degree from Georgia Institute of Technology and a certificate from a GlobalTeam partner school.

For more information, call 404.385.2254 or 800.815.7662 or contact the:

College of Management Global Executive M.B.A. Program
Georgia Institute of Technology
800 West Peachtree St. NW
Atlanta, Georgia 30308-0520
www.globalteamemba.com/

Technology Leadership Program (M.B.A. dual degree option)

Through the Technology Leadership Program, qualified graduate students wishing to pursue an M.B.A. degree and a graduate degree in another Georgia Tech graduate program can efficiently earn two graduate degrees in almost the same time it would take to earn the M.B.A. degree alone. For example, the M.B.A. program is normally sixty-one hours. For students pursuing another graduate degree at Georgia Tech, the length of the M.B.A. program is reduced to forty hours with the area of concentration being the coursework in the other Tech graduate program. Students in the Technology Leadership Program take thirty-one hours of required management core courses, plus nine hours of graduate management electives.

Those interested in dual master's degrees should consult with the respective graduate program directors to determine the feasibility of this approach. Technology Leadership students must complete applications for and meet the admission requirements of both programs.

Applications and viewbooks are available online at **www.mgt.gatech.edu/mba**.

For more information, call 404.894.8722 or contact the:

College of Management Graduate Office
Georgia Institute of Technology
Atlanta, Georgia 30308-0520

The Executive Master of Science in Management of Technology

The curriculum of this program is designed to develop individuals who are capable of leading organizations in technologically intensive and rapidly changing global environments. To do this, the program blends core business knowledge (i.e., M.B.A. core courses); a strategic management of technology emphasis; innovation and entrepreneurship; and leadership and change management skills. These materials are delivered in an active learning, discussion-oriented classroom environment that includes many hands-on collaborative projects. Program participants have the maximum opportunity to immediately apply their new knowledge in their jobs as they progress through the curriculum. Graduates possess the knowledge and skills necessary to strategically understand how to identify and quickly leverage technology opportunities throughout the organization for competitive advantage. They also understand how to lead the social side of the organization to facilitate innovation and effectively bring about change.

Other program features include:

1. **Leadership and team skills development:** Collaboration is a key skill that participants develop through the varied team projects that are required throughout the curriculum. These teams also serve as a key learning element as participants learn from team members who come from different industries, companies, and functional areas. Leadership, teamwork, conflict management, and communication skills are assessed and developed starting with the first opening residency.
2. **Innovative capstone project:** A multi-term team project is used to integrate course knowledge within the context of a technology-oriented new venture business plan. This project requires the team to blend its knowledge about technology forecasting, intellectual property, innovations, entrepreneurship principles, marketing, accounting and finance, and strategy within the context of a tightly crafted proposal. The project is then judged and evaluated by an outside panel of experts.
3. **Technology usage:** Classes take place in the College's Huang Executive Center. Classrooms are equipped with state-of-the-art technology with both wired and wireless network access. A suite of collaboration technologies is used to link participants to one another and permits dynamic electronic collaborations outside of class. These technologies also provide linkages to database resources participants are expected to use in their analyses. A state-of-the-art communications lab is open twenty-four hours a day, seven days a week to help participants improve their communications skills.

Degree Requirements and Schedule

The Executive M.S. in Management of Technology degree requires thirty-six semester credit hours of study consisting of a fixed sequence of courses over a nineteen-month period. The curriculum sequence begins with a weeklong residency on campus followed by classes on alternating weekends (all day Friday and Saturday) during the term. A second weeklong campus residency begins the second part of the program. The program concludes with a two-week international residency. A new class begins each summer semester. To graduate, students must have no more than three grades of *C* or lower and must have a cumulative grade point average of 2.77.

The Executive M.S. in Management of Technology begins in May each year. For more information on the program call 404.385.2254 or visit us on the web at **www.execmot.org** or contact the:

College of Management
Executive Master's Program Office
800 West Peachtree St. NW
Atlanta, GA 30308-0520
404.894.1462
404.894.1464
www.execmot.org

Master of Science in Quantitative and Computational Finance

The Master of Science degree in Quantitative and Computational Finance (M.S.Q.C.F.) is a collaboration of the College of Management, the School of Mathematics, and the School of Industrial and Systems Engineering. This is a sixteen-month interdisciplinary degree program that provides students with the practical skills and theoretical understanding they need to become experts in the formulation, implementation, and evaluation of the models used by the financial sector to structure transactions, manage risk, and construct investment strategies. Students require a thorough understanding of the principles, structures, and everyday activities of finance, an understanding of the mathematics used to model these financial activities, and knowledge of the techniques used to implement these models in finance-techniques in programming, numerical analysis, statistics, and optimization along with the intuition within finance itself.

Contact director
Dr. Robert Kertz
Phone: 404.894.4311
Web site: **www.qcf.gatech.edu**

Doctoral Program in Management

The Ph.D. program in Management is designed to produce graduates who can make scholarly contributions to their chosen fields. Most graduates undertake careers as teachers, scholars, and researchers in academic environments. The doctoral degree in Management also may lead to careers in industry and government.

The doctoral program in the College of Management is intended for full-time students who will complete their entire doctoral program prior to leaving the campus. Full-time residence in or near Atlanta is expected. The doctoral program is strongly research oriented and emphasizes early and effective involvement in research, with students experiencing considerable personal attention and close interaction with faculty. The Ph.D. program complements and reflects the technological emphasis of the Institute and places considerable weight on learning outside the classroom. The tutorial model is the basic educational model employed throughout the program.

All doctoral students take comprehensive examinations, which include both a general and a special examination. The student becomes a candidate for the degree after successful completion of both exams and the approval of the prospectus of his or her dissertation. On completion of the dissertation, the student must take a final oral examination as prescribed in the general regulations of the graduate division.

Applicants to the doctoral program in management should note that supplementary application materials are required by the College of Management in addition to those required by Georgia Tech's **Office of Graduate Admissions and Enrollment Services**.

Applications and viewbooks are available online at **www.mgt.gatech.edu/mba**.

For more information, call 404.894.8722 or contact the:

College of Management Graduate Office
Georgia Institute of Technology
Atlanta, Georgia 30308-0520

Ivan Allen College

Established in 1990
Location: 781 Marietta Street
Telephone: 404.385.1493
Fax: 404.894.8573
Web site: **www.iac.gatech.edu**
Ivan Allen Student Services Web site: **www.iac.gatech.edu/students**

General Information

The Ivan Allen College, named after a visionary leader who served as mayor of Atlanta during a time associated with the creation of the "New South," is a unique configuration of six schools as well as Georgia Tech's three ROTC departments. The College was established in 1990 in order to broaden the range of majors available to Tech students. The degree programs are unique in the ways they link the study of the social sciences and humanities to the world of technology and science. IAC majors prepare students for a wide range of professional careers, including leadership in government, business, and technology.

Study in these fields also prepares students for advanced study in professional programs in law, medicine, international affairs, public policy, and new media as well as graduate study in the humanities and social sciences. The success of these new programs has resulted in a realization of the close connections between service and progress expressed in Georgia Tech's motto.

The Ivan Allen College offers nine undergraduate degrees, five master's degrees, and three doctoral degrees. Detailed descriptions of these programs can be found under the appropriate school headings. In addition to its degree programs, the Ivan Allen College provides all Tech students with instruction in the humanities and social sciences. The College's course offerings and its certificate and minor programs enable students, regardless of major, to broaden their educational experience and to better understand the cultural underpinnings of their professional and personal lives and the international context in which they live and work.

Deans

Dean

Sue V. Rosser

Associate Deans

Peter McGuire, Ann Bostrom

Ivan Allen College - Degrees and Programs Offered

Ivan Allen College of Liberal Arts

SCHOOL OF ECONOMICS

Bachelor of Science in Economics

Bachelor of Science in Economics - Int'l Designator

Bachelor of Science in Economics and International Affairs

Bachelor of Science in Economics and International Affairs - Int'l Designator #1

Bachelor of Science in Economics and International Affairs - Int'l Designator #2

Bachelor of Science in Global Economics and Modern Languages

Bachelor of Science in Global Economics and Modern Languages - Int'l Designator

Master of Science with a Major in Economics

SCHOOL OF HISTORY, TECHNOLOGY, & SOCIETY

Bachelor of Science in History, Technology, and Society

Bachelor of Science in History, Technology, and Society - Int'l Designator

Master of Science in History and Sociology of Technology and Science

Doctor of Philosophy with a Major in History and Sociology of Technology and Science

SCHOOL OF INTERNATIONAL AFFAIRS

Bachelor of Science in International Affairs

Bachelor of Science in International Affairs - Int'l Designator

Bachelor of Science in International Affairs and Modern Language

Bachelor of Science in International Affairs and Modern Language - Int'l Designator

Bachelor of Science in Economics and International Affairs

Bachelor of Science in Economics and International Affairs - Int'l Designator #1

Bachelor of Science in Economics and International Affairs - Int'l Designator #2

Master of Science in International Affairs

SCHOOL OF LITERATURE, COMMUNICATION, & CULTURE

Bachelor of Science in Computational Media (Interdisciplinary with COC & Ivan Allen College)

Bachelor of Science in Computational Media - Int'l Designator (Interdisciplinary with COC)

Bachelor of Science in Computational Media - Research Option (Interdisciplinary with COC)

Bachelor of Science in Science, Technology, and Culture

Bachelor of Science in Science, Technology, and Culture - Biomedicine & Culture Option

Bachelor of Science in Science, Technology, and Culture - Gender Studeis Option

- Bachelor of Science in Science, Technology, and Culture - Media Option
- B.S./M.S.L.C.C. (Five-year)
- Master of Science in Human-Computer Interaction
- Master of Science in Information Design and Technology
- Doctor of Philosophy with a Major in Digital Media

SCHOOL OF MODERN LANGUAGES

- Bachelor of Science in International Affairs and Modern Language
- Bachelor of Science in International Affairs and Modern Language - Int'l Designator
- Bachelor of Science in Global Economics and Modern Languages
- Bachelor of Science in Global Economics and Modern Languages - Int'l Designator

PUBLIC POLICY

- Bachelor of Science in Public Policy
- B.S./M.S.PUB.P. (Five-year)
- Master of Science in Public Policy
- Doctor of Philosophy with a Major in Public Policy

Reserve Officers' Training Corps (ROTC)

- Air Force Reserve Officers' Training Corps (ROTC)
- Army Reserve Officers' Training Corps (ROTC)
- Navy Reserve Officers' Training Corps (ROTC)

Minor Programs and Certificate Programs

The schools of the Ivan Allen College offer certificates and minor programs in a variety of areas for students who wish to concentrate on coursework in areas of particular interest. All certificates require a minimum of twelve semester hours of concentration. Minor programs require at least eighteen hours of concentration (at least twelve hours taken at the 3000 level or above). Faculty advisors in the relevant schools should be consulted for details.

School of Economics

Economics

School of History, Technology, and Society

African American Studies (with Literature, Communication, and Culture)
Asian Affairs (with International Affairs)
European Affairs (with International Affairs)
History
Sociology
Women, Science, and Technology (with Literature, Communication, and Culture)

The Sam Nunn School of International Affairs

Asian Affairs (with History, Technology, and Society)
European Affairs (with History, Technology, and Society)
International Affairs

School of Literature, Communication, and Culture

African American Studies (with History, Technology, and Society)
American Literature
Film Studies
Literary and Cultural Studies
Performance Studies
Women, Science, and Technology (with History, Technology, and Society)

School of Modern Languages

Chinese
French
German
Japanese
Linguistics
Russian
Spanish

School of Public Policy

Law, Science, and Technology
Philosophy, Science, and Technology
Political Science
Pre-Law
Public Policy

Department of Air Force Aerospace Studies

School of Economics

Established in 1990
Location: The Habersham Building
781 Marietta Street
Telephone: 404.894.4919
Fax: 404.894.1890
Web site: **www.econ.gatech.edu**

General Information

The School of Economics provides high-quality programs of study leading to a Bachelor of Science degree in Economics and to a minor or certificate in economics for students in other disciplines. The program focuses on skills and knowledge critical for a life of learning and leading to careers in management, the public sector, academics, and the professions. A degree in economics is especially appropriate for students intending to pursue advanced degrees in the social sciences and in professional schools of management, law, and public administration.

Modern economics is analytically rigorous, requiring a background in mathematics and statistics. At the same time, it is critically linked with the other social sciences and humanities, as well as to the more practical management and policy studies. The undergraduate curriculum provides a strong and broadening overview of economic thought and policy and is intended to prepare students for productive careers, for useful roles in society, and for satisfying personal lives in a technologically complex, culturally diverse world.

The School of Economics, in cooperation with the School of Modern Languages, offers a Bachelor of Science degree in Global Economics and Modern Language. The degree program offers students an opportunity to broaden their educational experience and to enhance their marketability.

The School of Economics also offers graduate courses leading to a Master of Science degree and in support of Ph.D. programs in management, public policy, industrial and systems engineering, and city and regional planning.

Faculty

Chair and Professor

Patrick S. McCarthy

Associate Chair and Associate Professor

Willie J. Belton Jr

Professors

Thomas D. Boston, Christine P. Ries

Associate Professors

Vivek Ghosal, Mikhail Klimenko, Haizheng Li, Usha Nair-Reichert

Assistant Professors

Chul Chung, Maurizio Iacopetta, Derek Kellenberg, Rehim Kilic, Mark J. McCabe, Minjae Song

Adjunct Professors

Parks A. Dodd, Richard Fritz, Derek Tittle

Emeritus Professors

W. Carl Biven, Kong Chu, Marilu H. McCarty, William A. Schaffer

Bachelor of Science in Economics

The program of study provides a thorough grounding in science, the humanities, and mathematics; a broad grasp of the tools of economic analysis and decision making; and an understanding of the institutional milieu in which tomorrow's leaders must operate. In addition, the curriculum provides ample opportunities for career-oriented studies in fields such as accounting, finance, management science, public policy, and international affairs; life-enriching studies in history and literature are also available.

BACHELOR OF SCIENCE IN ECONOMICS
2006-2007 DEGREE REQUIREMENTS
School Of Economics
Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FREE ELECTIVE(S)	1
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COMPUTING REQUIREMENT	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	**HRS**
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS or SUBSTITUTE	3
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING or SUBSTITUTE	3
ENGINEERING, SCIENCE, or MATH ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	**HRS**
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
HUMANITIES ELECTIVE(S)	3
INTERNATIONAL AFFAIRS ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	**HRS**
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 4160 ECONOMIC FORECASTING	3
NON MAJOR CLUSTER ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
ECONOMICS ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
ECONOMICS ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
ECON 4610 SEMINAR ON ECONOMIC POLICY	3
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
FREE ELECTIVE(S)	4
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives and Requirements

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Mathematics

The mathematics requirement may be satisfied by one of the following sequences: MATH 1711-2; MATH 1501-2. Students will not receive credit for MATH 1712 and either MATH 1501 or 1502.

Science and Engineering Electives

Students must complete a laboratory sequence in biology, chemistry, physics, or earth and atmospheric sciences, along with three hours of electives chosen from engineering, science, or mathematics, for a total of eleven hours.

Social Sciences Electives

All students must complete twelve hours of electives in the social sciences, including three semester hours from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 to satisfy state requirements regarding coursework in the history and constitutions of the United States and Georgia. Also required are nine hours from the following list:

Architecture and City Planning

ARCH 4331, 4335; CP 4010, 4020, 4030

History, Sociology, and History, Technology, and Society

All HIST, SOC, and HTS courses except 2927, 2928, 2929, 4925, 4926, 4927, 4928, 4929

International Affairs

INTA 1100, 2030, 2100, 2200, 2220, 2230, 3240, 3801, 3802, 3803, 4801, 4802, 4803

Political Science and Public Policy

All POL and PUBP courses except 3113, 3600, 4530, 4532, 4901, 4902, 4903, 4951, 4952

Economics

All ECON courses except 3160, 3200, 4170, 4910, 4990

Psychology

PSYC 1101, 2015, 2020, 2103, 2210, 2220, 2230, 2240, 2260, 2300, 2400, 3060, 4070, 4770

Humanities Electives

Students are required to complete six hours of humanities from the following list:

Architecture, Industrial Design, and City Planning

ARCH 2111, 2112; COA 2115, 2116, 2241, 2242; CP 4040; ID 2202; MUSI 3610, 3620

Literature, Communication, and Culture

All ENGL and LCC courses except LCC 2661, 2662, 3400, 3402, 3404, 3406, 3408, 3410, 3412, 3661, 3662, 4100, 4102, 4200, 4400, 4402, 4404, 4406, 4600, 4602, 4904, 4906

Modern Languages

1. All CHIN courses beginning with CHIN 1002 except CHIN 4901, 4902
2. All FREN courses beginning with FREN 1002 except FREN 4901, 4902
3. All GRMN courses beginning with GRMN 1002 except GRMN 4901, 4902
4. All JAPN courses beginning with JAPN 1002
5. All LING courses except LING 4901, 4902
6. All RUSS courses beginning with RUSS 1002 except RUSS 4901, 4902
7. All SPAN courses beginning with SPAN 1002 except SPAN 4901, 4902

Philosophy, Science, and Technology

All PST courses except PST 4901, 4902, 4903

International Elective

Any course offered by the School of International Affairs satisfies this requirement.

Cluster Electives

Students must complete at least twelve hours of credit in a planned cluster in a discipline other than economics. This requirement is most easily satisfied through a certificate program. Any other concentration must be approved by the faculty of the School of Economics. The student must earn a *C* or better in these courses.

Individual Research Project

Each student is required to take ECON 4901, producing a formal research paper in the senior year.

Free Electives

Students must complete free electives (normally bearing 14 hours of credit), bringing the number of credit hours received up to 122. Only free electives may be taken on a pass/fail basis, subject to Institute limitations.

Bachelor of Science in Economics - International Plan

The program of study provides a thorough grounding in science, the humanities, and mathematics; a broad grasp of the tools of economic analysis and decision making; and an understanding of the institutional milieu in which tomorrow's leaders must operate. In addition, the curriculum provides ample opportunities for career-oriented studies in fields such as accounting, finance, management science, public policy, and international affairs; life-enriching studies in history and literature are also available

All degree programs offered by the School of Economics including the B.S. degree in Economics offer an International Plan (IP) Designation. In general the IP designation can be obtained by completing courses in three specified area:

1. Students are required to complete a general course in Global Economics. Economics 2101 has been approved by the IP committee to fulfill this requirement
2. Students are also required to complete a region specific course. Any number of International Affairs course can be used to fulfill this requirement
3. Student are also required to complete are capstone course rounding out the international experience. The IP designation also requires students to become proficient in a language as well as spending at least twenty-six week in a foreign culture enrolled School and/or participating in an internship experience

BACHELOR OF SCIENCE IN ECONOMICS
WITH "INTERNATIONAL PLAN" DESIGNATOR
2006 - 2007 DEGREE REQUIREMENTS
School Of Economics
Suggested Schedule - *International Experience*

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FREE ELECTIVE(S)	1
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE II	4
COMPUTING REQUIREMENT	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS or SUBSTITUTE	3
CS 1331 or CP 4510 or ECE 2030 or MGT 4058 or MGT 4061	3
ENGINEERING, SCIENCE, or MATH ELECTIVE(S)	3
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR - SPRING	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
HUMANITIES ELECTIVE(S)	3
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS (INTERNATIONAL RELATIONS ELECTIVE)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - FALL	HRS
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
ECON 4160 ECONOMIC FORECASTING	3
ECON 4350 INTERNATIONAL ECONOMICS	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR SPRING * (ABROAD) *	HRS
ECONOMICS ELECTIVE(S)	6
NON MAJOR CLUSTER ELECTIVE(S)	3
FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
GLOBAL ECONOMICS ELECTIVE	3

NON MAJOR CLUSTER ELECTIVE(S)	6
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4610 SEMINAR ON ECONOMIC POLICY	3
ECON 4910 INDIVIDUAL RESEARCH (CULMINATING INT'L PLAN COURSE)	3
ECONOMICS ELECTIVE(S)	3
FREE ELECTIVE(S)	4
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		

FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	

INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	

INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Economics and International Affairs

The primary objectives of the Bachelor of Science degree in Economics and International Affairs are to provide students with:

1. a detailed understanding of economic theory and practice in the contemporary world;
2. an understanding of the global, interdependent, and multicultural environment in which they live; and
3. a set of quantitative and qualitative analytical skills centered around policy-oriented issue areas in economics and international affairs. These skills will provide graduates with the capabilities to engage in strategic planning and analysis efforts in economic and international contexts.

BACHELOR OF SCIENCE IN ECONOMICS & INTERNATIONAL AFFAIRS
2006 - 2007 DEGREE REQUIREMENTS
School Of Economics
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
INTA 2100 GREAT POWER RELATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HTS 1031 or 2033 or 2036 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 3110 U.S. FOREIGN POLICY	3
INTA ELECTIVE(S)	3
LAB SCIENCE II	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
INTA 3203 COMPARATIVE POLITICS	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
TECHNICAL REQUIREMENT	3
ECONOMICS ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
ECON 4350 International Economics	3
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3

INTA 4400 INTERNATIONAL STRATEGY & POLICY	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** MUST BE APPROVED BY DEPARTMENT**

Electives and Requirements

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Mathematics

The mathematics requirement may be satisfied by one of the following sequences: MATH 1711-2; MATH 1501-2. Students will not receive credit for MATH 1712 and either MATH 1501 or 1502.

Science and Engineering Electives

Students must complete a laboratory sequence in biology, chemistry, physics, or earth and atmospheric sciences, along with three hours of electives chosen from engineering, science, or mathematics, for a total of eleven hours.

Social Sciences Electives

All students must complete twelve hours of electives in the social sciences, including three semester hours from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 to satisfy state requirements regarding coursework in the history and constitutions of the United States and Georgia. Also required are nine hours from the following list:

Architecture and City Planning

ARCH 4331, 4335; CP 4010, 4020, 4030

History, Sociology, and History, Technology, and Society

All HIST, SOC, and HTS courses except 2927, 2928, 2929, 4925, 4926, 4927, 4928, 4929

International Affairs

INTA 1100, 2030, 2100, 2200, 2220, 2230, 3240, 3801, 3802, 3803, 4801, 4802, 4803

Political Science and Public Policy

All POL and PUBP courses except 3113, 3600, 4530, 4532, 4901, 4902, 4903, 4951, 4952

Economics

All ECON courses except 3160, 3200, 4170, 4910, 4990

Psychology

PSYC 1101, 2015, 2020, 2103, 2210, 2220, 2230, 2240, 2260, 2300, 2400, 3060, 4070, 4770

Humanities Electives

Students are required to complete six hours of humanities from the following list:

Architecture, Industrial Design, and City Planning

ARCH 2111, 2112; COA 2115, 2116, 2241, 2242; CP 4040; ID 2202; MUSI 3610, 3620

Literature, Communication, and Culture

All ENGL and LCC courses except LCC 2661, 2662, 3400, 3402, 3404, 3406, 3408, 3410, 3412, 3661, 3662, 4100, 4102, 4200, 4400, 4402, 4404, 4406, 4600, 4602, 4904, 4906

Modern Languages

1. All CHIN courses beginning with CHIN 1002 except CHIN 4901, 4902
2. All FREN courses beginning with FREN 1002 except FREN 4901, 4902
3. All GRMN courses beginning with GRMN 1002 except GRMN 4901, 4902
4. All JAPN courses beginning with JAPN 1002
5. All LING courses except LING 4901, 4902
6. All RUSS courses beginning with RUSS 1002 except RUSS 4901, 4902
7. All SPAN courses beginning with SPAN 1002 except SPAN 4901, 4902

Philosophy, Science, and Technology

All PST courses except PST 4901, 4902, 4903

International Elective

Any course offered by the School of International Affairs satisfies this requirement.

Cluster Electives

Students must complete at least twelve hours of credit in a planned cluster in a discipline other than economics. This requirement is most easily satisfied through a certificate program. Any other concentration must be approved by the faculty of the School of Economics. The student must earn a *C* or better in these courses.

Individual Research Project

Each student is required to take ECON 4901, producing a formal research paper in the senior year.

Free Electives

Students must complete free electives (normally bearing 14 hours of credit), bringing the number of credit hours received up to 122. Only free electives may be taken on a pass/fail basis, subject to Institute limitations.

B.S. in Economics and INTA - International Plan #1

The B.S. degree in Economics and International Affairs with the International Plan designator provide students with:

1. a detailed understanding of economic theory and practice in the contemporary world;
2. an understanding of the global, interdependent, and multicultural environment in which they live; and
3. a set of quantitative and qualitative analytical skills centered around policy-oriented issue areas in economics and international affairs. These skills will provide graduates with the capabilities to engage in strategic planning and analysis efforts in economic and international contexts

All degree programs offered by the School of Economics including the B.S. Degree Economics International Affairs offer an International Plan (IP) Designation. In general the IP designation can be obtained by completing courses in three specified area:

1. Students are required to complete a general course in Global Economics. Economics 2101 has been approved by the IP committee to fulfill this requirement
2. Students are also required to complete a region specific course. Any number of International Affairs course can be used to fulfill this requirement
3. Student are also required to complete are capstone course rounding out the international experience. The IP designation also requires students to become proficient in a language as well as spending at least twenty-six week in a foreign culture enrolled School and/or participating in an internship experience

BACHELOR OF SCIENCE IN ECONOMICS & INTERNATIONAL AFFAIRS

INTERNATIONAL PLAN #1

2006 - 2007 DEGREE REQUIREMENTS

School Of Economics School Of International Affairs

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
INTA 2100 GREAT POWER RELATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HTS 1031 or 3030 or 2036 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS (INTERNATIONAL RELATIONS REQUIREMENT)	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 3110 U.S. FOREIGN POLICY	3
ECON 3161 ECONOMETRIC ANALYSIS	3
LAB SCIENCE II	4
TOTAL SEMESTER HOURS =	**16**

Summer Term: LBAT program in target foreign language

THIRD YEAR - FALL **	**HRS**
FREE ELECTIVE(S)	6
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
TECHNICAL REQUIREMENT	3
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA 3203 COMPARATIVE POLITICS (COUNTRY or REGIONAL REQUIREMENT)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
ECON 4350 INTERNATIONAL ECONOMICS	3

INTA 3301 INTERNATIONAL POLITICAL ECONOMY (GLOBAL ECONOMICS REQUIREMENT)	3
TECHNICAL REQUIREMENT	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA CAPSTONE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	HRS
ECONOMICS CAPSTONE	3
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** MUST BE APPROVED BY DEPARTMENT**
****JUNIOR YEAR-FIRST SEMESTER AT A FOREIGN UNIVERSITY: COURSES TAKEN IN TARGET FOREIGN LANGUAGE**

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		

FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	

INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	

INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

B.S. in Economics and INTA - International Plan #2

The B.S. degree in Economics and International Affairs with the International Plan designator provide students with 1) a detailed understanding of economic theory and practice in the contemporary world; 2) an understanding of the global, interdependent, and multicultural environment in which they live; and 3) a set of quantitative and qualitative analytical skills centered around policy-oriented issue areas in economics and international affairs. These skills will provide graduates with the capabilities to engage in strategic planning and analysis efforts in economic and international contexts.

All degree programs offered by the School of Economics including the B. S. Degree Economics-International Affairs offer an International Plan Designation (IP). In general the IP designation can be obtained by completing courses in three specified area: (1) Students are required to complete a general course in Global Economics. Economics 2101 has been approved by the IP committee to fulfill this requirement. (2) Students are also required to complete a region specific course. Any number of International Affairs course can be used to fulfill this requirement. (3) Student are also required to complete are capstone course rounding out the international experience. The IP designation also requires students to become proficient in a language as well as spending at least twenty-six week in a foreign culture enrolled School and/or participating in an internship experience.

BACHELOR OF SCIENCE IN ECONOMICS & INTERNATIONAL AFFAIRS
INTERNATIONAL PLAN #2
2006 - 2007 DEGREE REQUIREMENTS
School Of Economics School Of International Affairs

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
INTA 2100 GREAT POWER RELATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HTS 1031 or 3030 or 2036 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS (INTERNATIONAL RELATIONS REQUIREMENT)	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 3110 U.S. FOREIGN POLICY	3
ECON 3161 ECONOMETRIC ANALYSIS	3
LAB SCIENCE II	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
TECHNICAL REQUIREMENT	3
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA 3203 COMPARATIVE POLITICS (COUNTRY or REGIONAL REQUIREMENT)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING **	**HRS**
FREE ELECTIVE(S)	6
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
TOTAL SEMESTER HOURS =	**15**

Summer Term: international work, internship, or faculty-led research experience

FOURTH YEAR - FALL	**HRS**
ECON 4350 INTERNATIONAL ECONOMICS	3

INTA 3301 INTERNATIONAL POLITICAL ECONOMY (GLOBAL ECONOMICS REQUIREMENT)	3
TECHNICAL REQUIREMENT	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA CAPSTONE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECONOMICS CAPSTONE	3
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** MUST BE APPROVED BY DEPARTMENT**
****JUNIOR YEAR-SECOND SEMESTER AT AN ENGLISH-SPEAKING FOREIGN UNIVERSITY**

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		

FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	

INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	

INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Global Economics and Modern Language

In partnership with the School of Modern Languages, the Sam Nunn School offers the Bachelor of Science in International Affairs and Modern Language, with separate concentrations in French, German, Japanese, and Spanish. Students in this program receive intensive foreign language training and learn the fundamentals of dealing with foreign cultures and societies. A detailed description of the degree program is found in the School of Modern Languages section of this Catalog.

All degree programs offered by the School of Economics including the B. S. Degree Global Economics and Modern Languages offer an International Plan Designation (IP). In general the IP designation can be obtained by completing courses in three specified area: (1) Students are required to complete a general course in Global Economics. Economics 2101 has been approved by the IP committee to fulfill this requirement. (2) Students are also required to complete a region specific course. Any number of International Affairs course can be used to fulfill this requirement. (3) Student are also required to complete are capstone course rounding out the international experience. The IP designation also requires students to become proficient in a language as well as spending at least twenty-six week in a foreign culture enrolled School and/or participating in an internship experience.

B.S. IN GLOBAL ECONOMICS & MODERN LANGUAGES (FRENCH)
2006 - 2007 DEGREE REQUIREMENTS
FRENCH USED AS A MODEL; OTHER OPTIONS INCLUDE CHINESE, GERMAN, JAPANESE, & SPANISH
(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)
School Of Economics

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
FREE ELECTIVE(S) (French 2001 if needed)	3
WELLNESS	2
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
FREE ELECTIVE(S) (French 2002 if needed)	3
COMPUTING REQUIREMENT	3
ENGINEERING / SCIENCE / MATHEMATICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
FRENCH ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
FREE ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
ECON 3150 ECONOMIC & FINANCIAL MODELING	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR - FALL	HRS
ECON 4160 FORECASTING	3
FREE ELECTIVE(S)	6
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3

NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives and Requirements

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Mathematics

The mathematics requirement may be satisfied by one of the following sequences: MATH 1711-2; MATH 1501-2. Students will not receive credit for MATH 1712 and either MATH 1501 or 1502.

Science and Engineering Electives

Students must complete a laboratory sequence in biology, chemistry, physics, or earth and atmospheric sciences, along with three hours of electives chosen from engineering, science, or mathematics, for a total of eleven hours.

Social Sciences Electives

All students must complete twelve hours of electives in the social sciences, including three semester hours from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 to satisfy state requirements regarding coursework in the history and constitutions of the United States and Georgia. Also required are nine hours from the following list:

Architecture and City Planning

ARCH 4331, 4335; CP 4010, 4020, 4030

History, Sociology, and History, Technology, and Society

All HIST, SOC, and HTS courses except 2927, 2928, 2929, 4925, 4926, 4927, 4928, 4929

International Affairs

INTA 1100, 2030, 2100, 2200, 2220, 2230, 3240, 3801, 3802, 3803, 4801, 4802, 4803

Political Science and Public Policy

All POL and PUBP courses except 3113, 3600, 4530, 4532, 4901, 4902, 4903, 4951, 4952

Economics

All ECON courses except 3160, 3200, 4170, 4910, 4990

Psychology

PSYC 1101, 2015, 2020, 2103, 2210, 2220, 2230, 2240, 2260, 2300, 2400, 3060, 4070, 4770

Humanities Electives

Students are required to complete six hours of humanities from the following list:

Architecture, Industrial Design, and City Planning

ARCH 2111, 2112; COA 2115, 2116, 2241, 2242; CP 4040; ID 2202; MUSI 3610, 3620

Literature, Communication, and Culture

All ENGL and LCC courses except LCC 2661, 2662, 3400, 3402, 3404, 3406, 3408, 3410, 3412, 3661, 3662, 4100, 4102, 4200, 4400, 4402, 4404, 4406, 4600, 4602, 4904, 4906

Modern Languages

1. All CHIN courses beginning with CHIN 1002 except CHIN 4901, 4902
2. All FREN courses beginning with FREN 1002 except FREN 4901, 4902
3. All GRMN courses beginning with GRMN 1002 except GRMN 4901, 4902
4. All JAPN courses beginning with JAPN 1002
5. All LING courses except LING 4901, 4902
6. All RUSS courses beginning with RUSS 1002 except RUSS 4901, 4902
7. All SPAN courses beginning with SPAN 1002 except SPAN 4901, 4902

Philosophy, Science, and Technology

All PST courses except PST 4901, 4902, 4903

International Elective

Any course offered by the School of International Affairs satisfies this requirement.

Cluster Electives

Students must complete at least twelve hours of credit in a planned cluster in a discipline other than economics. This requirement is most easily satisfied through a certificate program. Any other concentration must be approved by the faculty of the School of Economics. The student must earn a *C* or better in these courses.

Individual Research Project

Each student is required to take ECON 4901, producing a formal research paper in the senior year.

Free Electives

Students must complete free electives (normally bearing 14 hours of credit), bringing the number of credit hours received up to 122. Only free electives may be taken on a pass/fail basis, subject to Institute limitations.

B.S. in Global Economics and Modern Languages - International Plan

The degree requirements for the Global Economics and Modern Language (Chinese, French, German, Japanese and Spanish)-International Plan are basically the same as for the GEML degree, except that students are required to spend two terms abroad and then achieve Intermediate High (for Chinese and Japanese: Intermediate Low) on the standardized ACTFL testing scale during an oral interview. The costs of the test will be paid for by the School of Modern Languages for each student. The terms abroad may typically consist of one semester of study plus a significant amount of time spent with a research or work project abroad. Students may also opt for a second semester. GEML-IP majors are also strongly encouraged to enroll in the LBAT intensive summer programs offered by the School of Modern Languages.

In addition to gaining advanced global competence, the International Plan designation will set you apart from other applicants with recruiters from top companies and governmental agencies.

Other Required Courses include the following, and these can easily be obtained within the regular required curriculum offerings of ECON and Modern Languages. These requirements can also be met with courses taken abroad, upon consultation with ECON degree advisors.

1. 5. At least one course focused on international relations historically and theoretically, including topics such as the role of state sovereignty and nationalism and non-state actors in the international system; international conflict, peace, security, intervention, and nation-building; international organizations, law, and ethics; transnational problems of the environment, terrorism, health, and migration; among other issues (see INTA courses).
2. 6. At least one course that provides a historical and theoretical understanding of the global economy, including topics such as international trade, finance, investment, and production; regional economic integration (such as the EU); economic development and modernization; and questions of natural resource sustainability.
3. 7. At least one course that provides familiarity with an area of the world or a country that allows them to make systematic comparisons with their own society and culture. This course could come from various disciplinary perspectives, including history, public policy, philosophy, international affairs, literature, economics, management, architecture, among others. Upper division Modern Language course will count here.
4. 8. A culminating course, occurring either at the end of or after the international experience that integrates knowledge of the discipline and the international experience in a global context.

B.S. IN GLOBAL ECONOMICS & MODERN LANGUAGES (FRENCH)
INTERNATIONAL PLAN
2006 - 2007 DEGREE REQUIREMENTS
FRENCH IS USED AS A MODEL; OTHER OPTIONS INCLUDE GERMAN, JAPANESE, AND SPANISH
(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)

School Of Economics School Of Modern Languages

Suggested Schedule - *International Experience*
Junior Year Abroad in
France (Sciences Po) Germany (TUM/LMU/Leipzig), Japan (Waseda) or Mexico (Monterrey Tech)

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
FREE ELECTIVE(S) (French 2001 if needed)	3
WELLNESS	2
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
FREE ELECTIVE(S) (French 2002 if needed)	3
COMPUTING REQUIREMENT **	3
ENGINEERING / SCIENCE / MATHEMATICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
FRENCH ELECTIVE(S) SATISFIES COUNTRY or REGIONAL ELECTIVE	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

Summer Term: faculty-led LBAT program 9-12 credits in language. Pre-semester intensive language classes at foreign university: 6-12 credits in language and/or culture

SECOND YEAR - SPRING	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
SOCIAL SCIENCE ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL * (ABROAD) *	HRS
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
GLOBAL ECONOMICS ELECTIVE (SS)	3
TOTAL SEMESTER HOURS =	**15**

Summer Term: May complete international work, internship, or research experience

THIRD YEAR - SPRING * (ABROAD) *	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
ECON 3150 ECONOMIC & FINANCIAL MODELING	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR - FALL	**HRS**
ECON 4160 FORECASTING	3
FREE ELECTIVE(S)	6
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
NON MAJOR CLUSTER ELECTIVE(S) INTERNATIONAL RELATIONS ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S) (CULMINATING INT'L PLAN COURSE)	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Junior Year Abroad in France (Sciences Po, Germany (TUM/LMU/Leipzig), Japan (Waseda) or Mexico (Monterrey Tech)
**CP 4510, CS 1331 , CS 1315, ECE 2030, MGT 4058 or MGT 4661

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Minor in Economics

The School of Economics offers a Minor in Economics for students in all disciplines at Georgia Tech. The minor program provides a general acquaintance with economic thought and is especially valuable for students considering graduate work in law or management. It should also be attractive to students who wish to broaden their education and to understand the forces that shape the modern world.

The minor requires a minimum of eighteen semester hours in economics, of which twelve semester hours are upper-level courses (numbered 3000 or above). All courses counting toward the minor must be taken on a letter-grade basis and must be completed with an overall grade point average of at least 2.0. Courses required by name and number in a student's major degree program may not be used toward the minor.

Certificate in Economics

The School of Economics offers a Certificate in Economics for students in all disciplines at Georgia Tech. The certificate program provides a general acquaintance with economic thought and is especially appropriate for students considering graduate work in law or business administration. The certificate program should also be attractive to students who want to apply the tools of economics toward a fuller understanding of the forces that shape the modern world.

The certificate requires a minimum of twelve semester hours of economics courses in which a *C* or better is earned. At least nine hours of credit must be at the 3000 level or above. Courses required in the student's major degree program may not be used toward the certificate.

Master of Science with a Major in Economics

The School of Economics offers a Master of Science degree for those desiring to pursue economics at an advanced level. Grounded in applied economic theory and econometrics, this is a three-semester program that prepares students for professional careers in the private and public sectors as well as for more advanced training in economics doctoral programs. Although the master's curriculum is flexible in allowing students to tailor areas of specialization to their specific interests, the program is particularly well suited to those interested in industrial organization, technology, innovation, international trade, and economic development.

Core courses in the program require that students take microeconomic and macroeconomic theory, research methods, probability and statistics, and econometrics. In addition to the core, students must also complete a total of four courses that reflect two areas of concentration consistent with students' interests. An advantage of the master's program is that it allows students to complete their areas of concentration by taking courses in units outside the School of Economics, including the Sam Nunn School of International Affairs, the School of Public Policy, the School of Industrial and Systems Engineering, and the College of Architecture.

Students admitted into the master's program are also encouraged to pursue a summer internship. This allows students to apply their economic knowledge and statistical tools to problems that are encountered in professional private and public sector environments.

The Master of Science degree requires a minimum of thirty-three semester credit hours of coursework with:

1. at least twelve hours of economic theory and applied economics;
2. at least one additional quantitative methods course beyond econometrics; and
3. a master's thesis or, for a nonthesis option, one additional course offered in the School of Economics.

School of History, Technology, and Society

Established in 1990
Location: D. M. Smith Building
Telephone: 404.894.3196
Fax: 404.894.0535
Web site: **www.hts.gatech.edu**

General Information

The School of History, Technology, and Society (HTS), dedicated to the ideal of a well-rounded education at a technological university, provides instruction in the social sciences to every student at the Georgia Institute of Technology. The School offers courses in history and sociology leading to the degrees of Bachelor of Science in History, Technology, and Society; Master in History and Sociology of Technology and Science; and Doctor of Philosophy in History and Sociology of Technology and Science. HTS also offers a variety of minor and certificate programs for students in other undergraduate majors.

Faculty

Chair and Professor

Ronald H. Bayor

Melvin Kranzberg Professor of the History of Technology

John Krige

Professors

Lawrence Foster, August W. Giebelhaus, Hanchao Lu, Gregory H. Nobles, Carole E. Moore, Willie Pearson Jr., Sue V. Rosser (Dean of Ivan Allen College), Jonathan Schneer

Associate Professors

Eleanor Alexander, Michael Allen, Alice Bullard, Douglas Flamming, John L. Tone, Stephen W. Usselman

Assistant Professors

Amanda Damarin, Maren Klawiter, William Winders, Laura Bier

Bachelor of Science in History, Technology, and Society

The HTS degree is comparable to traditional degrees in history and sociology, but the program has several attributes that make it unique. The degree requires broad-based training in humanities, mathematics, science, and social sciences, giving HTS graduates the advantage of a truly broad, humanistic education. The program's focus on the social origins and impact of industry, science, and technology is also distinctive, providing students with the critical tools needed to understand the complex issues related to the development of the modern world.

Students who wish to pursue careers or graduate study in business, education, government, journalism, law, publishing, and many other fields will benefit from this degree program.

BACHELOR OF SCIENCE IN HISTORY, TECHNOLOGY, AND SOCIETY
2006-2007 DEGREE REQUIREMENTS
School Of History, Technology, And Society
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 the Untied States TO 1877 or 2112 the Untied States SINCE 1877	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
SOC 1101 INTRODUCTION TO SOCIOLOGY	3
COMPUTING REQUIREMENT	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
HTS 1031 EUROPE SINCE THE RENAISSANCE	3
HTS ELECTIVE(S)	3
MODERN LANGUAGE HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	HRS
ECON 2105 or 2106 or 2100	3
HTS ELECTIVE(S) (Technology & Society)	3
MODERN LANGUAGE HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
HTS 3101 LOGIC OF HISTORICAL & SOCIAL RESEARCH	3
HTS ELECTIVE(S)	6
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
HTS 3102 SOCIAL THEORY & SOCIAL STRUCTURE	3
HTS ELECTIVE(S)	6
FREE ELECTIVE(S)	3
HTS ELECTIVE(S) (Technology & Society)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
HTS SEMINAR	4
HTS ELECTIVE(S)	6
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	HRS
HTS SEMINAR	4
HTS ELECTIVE(S)	3

FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Requirements and Electives

Computing Requirement

Students must complete either CS 1315, CS 1301 , or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

History and Government Requirement

The state of Georgia requires all students to take a course on the government and history of the United States and Georgia. Any one of the following courses will fulfill this requirement: HIST 2111, HIST 2112, INTA 1200, POL 1101, or PUBP 3000.

Writing and Communication Intensive Courses

A number of majors require students to complete writing intensive and communication intensive courses. Several HTS classes may be counted toward this requirement, including many 3000-level courses and all 4000-level seminars. Consult course offerings each semester to determine which courses may be counted toward this requirement.

Requirements for the Bachelor of Science in History, Technology, and Society

1. Core Curriculum
2. Computing: See Computing Requirement Above
3. English: ENGL 1101 and 1102

Humanities and Fine Arts

HTS Majors fulfill their humanities requirement by taking six credit hours in a single foreign language.

Mathematics

Students must complete one of the following mathematics sequences: MATH 1711 and 1712, MATH 1501 and 1502, or MATH 1501 and 1711.

Science

Students must take two of the following eight courses. BIOL 1510 and 1520, CHEM 1312 and 1313, EAS 1600 and 1601, or PHYS 2211 and 2212.

Social Science

In the course of earning their degree in HTS, students will earn many more Social Science credits than are required by the Institute.

Courses Related to Major

1. **Foreign Language**
   Students must complete a two-course sequence in a foreign language.
2. **Economics**
   Students must take one of the following: ECON 2100, 2105, or 2106
3. **Sociology**
   SOC 1101
4. **European History**
   HTS 1031
5. **United States History**
   HIST 2111 or 2112 (when one of these courses is taken, the other may be taken and counted as an HTS Elective)
6. **Technology and Society**
   Students must complete two courses from an approved list that includes: HTS 2081, 2082, 2084, 3001, 3007, 3020, 3021, 3082, 3083, 3084, and 3085.
7. **Historical Methods**
   HTS 3101
8. **Social Theory**
   HTS 3102
9. **Research Seminars**
   Students must complete two HTS 4000-level seminars, preferably in their junior and senior years.
10. **Additional HTS Electives**
    Students must take twenty-one credit hours of additional HTS courses.
11. **Free Electives**
    Students must earn enough credits (from any discipline) to reach the Institute minimum of 122 credit hours (counting the two-hour Wellness credit). Most HTS majors earn thirty hours of free electives.
12. **Honor's Thesis**
    Qualifying students may elect to complete the honor's thesis with approval of the department.

B.S. in History, Technology, and Society - International Plan

This degree program combines the traditional benefits of an HTS degree with the additional benefits of international education. HTS strongly encourages study abroad programs and believes that international experiences greatly enhance one's undergraduate education.

The number of credit hours needed for this degree (B.S. in History, Technology, and Society-International Plan) is the same as for the traditional bachelors degree in HTS. However, the International Plan (IP) degree has different requirements. These requirements are discussed briefly in the next paragraph. In most cases, HTS majors will be able to use their free-elective hours to fulfill the HTS-IP requirements.

There are two IP tracks: the English Language option, and the Foreign Language Option. HTS supports both options, which the Institute deems to be equal in difficulty and value. Both tracks require a total of twenty-six weeks in residence in a specific foreign country or region. These weeks must be accumulated in one or two trips abroad; any combination of coursework, research, internship, or work may apply to this twenty-six week total, given the approval of the HTS undergraduate coordinator. Both IP tracks require a minimum of 12 credit hours in one foreign language and demonstration of proficiency in that language. Both require participants to take a cluster of courses from a menu of IP-designated electives; both require completion of a "capstone" course, which will be offered through HTS.

For fuller information see the official Institute IP Web site through Georgia Tech's Office of International Education.

BACHELOR OF SCIENCE IN HISTORY, TECHNOLOGY, AND SOCIETY
WITH "INTERNATIONAL PLAN" DESIGNATOR
2006-2007 DEGREE REQUIREMENTS
School Of History, Technology, And Society

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
HIST 2111 the Untied States TO 1877 or 2112 the Untied States SINCE 1877	3
LANGUAGE I	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
SOC 1101 INTRODUCTION TO SOCIOLOGY	3
LANGUAGE II	3
COMPUTING REQUIREMENT	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
HTS 1031 EUROPE SINCE THE RENAISSANCE	3
HTS ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
INTERNATIONAL RELATIONS ELECTIVE	3
LANGUAGE III	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
ECON 2105 or 2106 or 2100	3
HTS ELECTIVE(S) (Technology & Society)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
GLOBAL ECONOMICS ELECTIVE	3
LANGUAGE IV	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL * (ABROAD) *	HRS
HTS 3101 LOGIC OF HISTORICAL & SOCIAL RESEARCH	3
HTS ELECTIVE(S)	6
COUNTRY or REGIONAL ELECTIVE	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING * (ABROAD) *	HRS
HTS 3102 SOCIAL THEORY & SOCIAL STRUCTURE	3
HTS ELECTIVE(S)	6
FREE ELECTIVE(S)	3
HTS ELECTIVE(S) (Technology & Society)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
HTS SEMINAR	4
HTS ELECTIVE(S)	6
FREE ELECTIVE(S)	6

TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
HTS SEMINAR	4
HTS ELECTIVE(S)	3
CULMINATING INT'L PLAN COURSE	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Computing Requirement

Students must complete either CS 1315, CS 1301 , or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

History and Government Requirement

The state of Georgia requires all students to take a course on the government and history of the United States and Georgia. Any one of the following courses will fulfill this requirement: HIST 2111, HIST 2112, INTA 1200, POL 1101, or PUBP 3000.

Writing and Communication Intensive Courses

A number of majors require students to complete writing intensive and communication intensive courses. Several HTS classes may be counted toward this requirement, including many 3000-level courses and all 4000-level seminars. Consult course offerings each semester to determine which courses may be counted toward this requirement.

Requirements for the B.S.in HTS - INTERNATIONAL PLAN

1. Core Curriculum
2. Computing: See Computing Requirement Above
3. English: ENGL 1101 and 1102
4. Modern Language: 12 credit hours in one language; specified level of competence through examination
5. IP Electives: One course from each of the three IP-elective categories listed on Georgia Tech's OIE Web site (total of 9 credit hours)
6. International Study: twenty-six weeks in residence in a specific country or region
7. Capstone Course for IP through HTS (3 credit hours)

Humanities and Fine Arts

HTS-IP Majors will more than fulfill their humanities requirement by taking twelve credit hours in a single foreign language.

Mathematics

Students must complete one of the following mathematics sequences: MATH 1711 and 1712, MATH 1501 and 1502, or MATH 1501 and 1711.

Science

Students must take two of the following eight courses. BIOL 1510 and 1520, CHEM 1312 and 1313, EAS 1600 and 1601, or PHYS 2211 and 2212.

Social Science

In the course of earning their degree in HTS, students will earn many more Social Science credits than are required by the Institute.

Courses Related to Major

1. **Foreign Language**
   Students must complete a four-course sequence in a foreign language.
2. **Economics**
   Students must take one of the following: ECON 2100, 2105, or 2106
3. **Sociology**
   SOC 1101
4. **European History**
   HTS 1031
5. **United States History**
   HIST 2111 or 2112 (when one of these courses is taken, the other may be taken and counted as an HTS Elective)
6. **Technology and Society**
   Students must complete two courses from an approved list that includes: HTS 2081, 2082, 2084, 3001, 3007, 3020, 3021, 3082, 3083, 3084, and 3085.
7. **Historical Methods**
   HTS 3101
8. **Social Theory**
   HTS 3102
9. **Research Seminars**
   Students must complete two HTS 4000-level seminars, preferably in their junior and senior years. (4 hour courses)
10. **Additional HTS Electives**
    Students must take twenty-one credit hours of additional HTS courses.
11. **Free Electives**
    Students must earn enough credits (from any discipline) to reach the Institute minimum of 122

credit hours (counting the two-hour Wellness credit). Most HTS-IP students will earn about thirty hours of free electives.

12. **Honor's Thesis**
    Qualifying students may elect to complete the honor's thesis with approval of the department.

13. **HTS IP-Capstone Course**
    Mandatory 3 hours course for HTS-IP Majors

Minor and Certificate Programs

For students in other majors interested in broadening their educational experience at Georgia Tech, HTS offers minors in history and in sociology, and jointly administers a minor in Women, Science, and Technology (WST).

Alone or in conjunction with other units of the Ivan Allen College, HTS offers certificates in five fields:

1. African American Studies
2. Asian Affairs
3. European Affairs
4. History
5. Sociology

The School of History, Technology, and Society also offers courses that are included in the Pre-Law certificate and minor offered by the School of Public Policy.

Minors are awarded upon completion of six approved courses. Certificates require four approved courses. Certificates and minors will be granted only to students who have satisfied requirements for an undergraduate major degree. For more information on HTS undergraduate programs, contact the director of Undergraduate Studies in HTS at 404.894.3196.

M.S. in History and Sociology of Technology and Science

The School offers a program of graduate study in the history and sociology of technology and science at both the master's and doctoral levels. The two-year master's program consists of foundation courses in history, social theory, and research methods, as well as more specialized reading and research seminars. The program emphasizes the understanding of technology and science within a broad social and historical context. Students develop a strong general background in history and sociology, and acquire skills in research, social analysis, and writing.

The basic curriculum of thirty hours (required of both M.S. and Ph.D. candidates) consists of nine hours of required fundamental courses, twelve hours of core electives within HTS, an advanced interdisciplinary seminar, and six hours of free electives. No more than six electives may be counted as an independent study. Students must also complete a major research paper. Comprehensive examinations are normally taken in the third academic year. The examinations will cover material from three fields of study, which will be determined by a student's selection of history or sociology as the area of concentration.

In addition to satisfactory performance in the comprehensive examinations, students must also pass a foreign language examination (normally in French, German, or Spanish) before being admitted to candidacy for the Ph.D. Having met these requirements, the candidate will submit a dissertation proposal, which must meet the approval of his or her dissertation committee. The candidate will then proceed to the final requirement for the degree: the completion of the Ph.D. dissertation and its successful defense by oral examination.

Ph.D. with a Major in History and Sociology of Technology and Science

The School offers a program of graduate study in the history and sociology of technology and science at both the master's and doctoral levels. The two-year master's program consists of foundation courses in history, social theory, and research methods, as well as more specialized reading and research seminars. The program emphasizes the understanding of technology and science within a broad social and historical context. Students develop a strong general background in history and sociology, and acquire skills in research, social analysis, and writing.

The basic curriculum of thirty hours (required of both M.S. and Ph.D. candidates) consists of nine hours of required fundamental courses, twelve hours of core electives within HTS, an advanced interdisciplinary seminar, and six hours of free electives. No more than six electives may be counted as an independent study. Students must also complete a major research paper. Comprehensive examinations are normally taken in the third academic year. The examinations will cover material from three fields of study, which will be determined by a student's selection of history or sociology as the area of concentration.

In addition to satisfactory performance in the comprehensive examinations, students must also pass a foreign language examination (normally in French, German, or Spanish) before being admitted to candidacy for the Ph.D. Having met these requirements, the candidate will submit a dissertation proposal, which must meet the approval of his or her dissertation committee. The candidate will then proceed to the final requirement for the degree: the completion of the Ph.D. dissertation and its successful defense by oral examination.

The Sam Nunn School of International Affairs

Established in 1990
Location: Habersham Building,
781 Marietta Street
Telephone: 404.894.3195
Fax: 404.894.1900
Web site: **www.inta.gatech.edu**

General Information

The Sam Nunn School of International Affairs offers educational programs that provide an enhanced understanding of the factors that shape the world in which we live and work in the twenty-first century. The programs of study equip students with the quantitative and qualitative skills needed to engage in strategic planning and analysis in an international context. A unique interdisciplinary curriculum provides students with an understanding of the increasing importance of technology in a borderless world. Many graduates assume professional positions with business, government, and international organizations. Other graduates pursue postgraduate or professional education in a range of disciplines that includes law, business, international affairs, public administration, and economics.

The Sam Nunn School of International Affairs is the only one of its kind at a leading technological institute. The educational programs administered by the Sam Nunn School at Georgia Tech are designed to equip students with the skills, values, and experience to build bridges between the world of science and technology and the world of international relations.

Faculty

Chair and Professor

William J. Long

Director of Graduate Programs and Associate Professor

Brian Woodall

Director of Undergraduate Programs and Associate Professor

Molly Cochran

Professors

John E. Endicott, John W. Garver, Seymour Goodman, Robert Kennedy, Sam Nunn, Daniel S. Papp, Michael D. Salomone, Fei-Ling Wang

Associate Professors

Kirk Bowman, Peter Brecke, Katja Weber

Assistant Professors

Michael Best, Vicki Birchfield, Dan Breznitz, Michelle Dion, Edward Keene, Sylvia Maier, Adam Stulberg.

Jointly Appointed Professors

John R. McIntyre, Edmund B. Richmond (emeritus), Richard D. Teach

Jointly Appointed Associate Professor

Richard P. Barke

Undergraduate Programs - General Information

The Sam Nunn School offers three outstanding undergraduate degree programs: the Bachelor of Science in International Affairs, the Bachelor of Science in International Affairs and Modern Language, and the Bachelor of Science in Economics and International Affairs. Please note that graduation checklists for these degrees are available on the Sam Nunn School Web site: **www.inta.gatech.edu**

Bachelor of Science in International Affairs

The Bachelor of Science in International Affairs (B.S. IA) program includes instruction in international affairs, foreign languages, ethics and philosophy, social and natural sciences, and computer science. Upper-division coursework provides training in four substantive areas:

1. technology, ethics, and scientific analysis;
2. international security and diplomacy;
3. comparative politics, cultures, and societies; and
4. international political economy.

Graduates of the B.S. IA program are prepared for advanced graduate and professional study and are ready for employment in internationally oriented firms, government agencies, and non- profit organizations.

International Affairs majors are strongly encouraged to enhance their education through participation in study abroad programs, internships, and a host of on- and off-campus programs. In addition to the numerous opportunities afforded through Georgia Tech's Office of International Education, the Sam Nunn School sponsors rigorous summer study abroad programs in the European Union (Brussels), East Asia (China, Japan, Taiwan), Costa Rica, and Argentina (Buenos Aires). Recognizing the importance of professional experience in enhancing a student's education, the Sam Nunn School encourages majors to pursue an internship or participate in the Cooperative Plan in their field of interest. In addition, students are strongly encouraged to get involved in a range of extracurricular activities, including Model United Nations; the European Union Center; AIESEC; Sigma Iota Rho (the International Affairs honor society); the Center for International Strategy, Technology, and Policy; the International Affairs Student Organization; and student conferences. Students are actively involved in the guest lecture series and participate in the biennial Sam Nunn/Bank of America Policy Forum.

BACHELOR OF SCIENCE IN INTERNATIONAL AFFAIRS

2006-2007 DEGREE REQUIREMENTS

School Of International Affairs

Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
MODERN LANGUAGE ELECTIVE(S)	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
MODERN LANGUAGE ELECTIVE(S)	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	**HRS**
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2010 EMPIRICAL METHODS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HTS 1031 or 2036 or 2037 or 2062	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
INTA 2100 GREAT POWER RELATIONS	3
INTA 2210 COMPARATIVE POLITICAL PHILOSOPHIES & IDEOLOGIES	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
INTA 3110 U.S. FOREIGN POLICY	3
INTA ELECTIVE(S)	3
TECHNICAL REQUIREMENT	3
ECON 2100 or 2105 or 2106	3
CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	**HRS**
INTA 3203 COMPARATIVE POLITICS	3
INTA ELECTIVE(S)	3
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3
FREE ELECTIVE(S)	3
CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
INTA ELECTIVE(S)	6
CLUSTER ELECTIVE(S)	6

FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
INTA 4400 INTERNATIONAL STRATEGY & POLICY	3
CLUSTER ELECTIVE(S)	3
FREE ELECTIVE(S)	7
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***(DEPARTMENTAL APPROVAL REQUIRED)**

Requirements and Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

The International Affairs Core

Student majors acquire an understanding of the core issues in international affairs by completing the following required courses: INTA 1001, 1110, 2010, 2030, 2040, 2100, 2210, 3110, 3203, and 3301. Students are encouraged to complete INTA 2010 early to make the most of their upper-division studies. In addition, student majors are required to round out their studies with INTA 4400, a capstone senior seminar. Students must achieve a *C* or above in the international affairs core courses.

Humanities and Fine Arts

The ability to communicate effectively is essential to success in almost any meaningful endeavor. To this end, students are required to complete six hours of English, including ENGL 1101 and 1102. All Tech students are required to complete an additional six hours of humanities and fine arts, which INTA students satisfy through their mandatory four-semester modern language requirement.

Social Science Electives

In order to satisfy the Untied States /Georgia history and Constitution requirements, students must complete one of the following courses: INTA 1200, HIST 2111, HIST 2112, POL 1101, or PUBP 3000. International Affairs majors are encouraged to take INTA 1200, which examines American government in relation to political and economic systems in countries around the world. INTA students satisfy a required nine hours of social science coursework with their INTA classes.

Mathematics and Sciences

An understanding of scientific methodology and quantitative analytic skills is essential for practitioners and policymakers in today's international arena. The mathematics requirement may be satisfied by one of the following sequences: MATH 1501 and 1502; MATH 1501 and 1711; or MATH 1711 and 1712. In addition, students are required to complete eight hours of laboratory science courses. These courses do not need to be sequential. Any two of the following courses will satisfy the requirement: BIOL 1510, BIOL 1520, CHEM 1310, CHEM 1311 and 1312, EAS 1600, EAS 1601, PHYS 2211, or PHYS 2212.

Computer and Technology Literacy

The information revolution is transforming international affairs. More than ever before, the solution of real-world problems demands an understanding of and the ability to use computers and information technology. In order to gain these essential skills, students are required to complete either CS 1315 or CS 1301. Students must also complete one additional technology elective from the list of technology course options approved by the School of International Affairs.

Courses Related to the Major

The B.S. IA curriculum is multidisciplinary, and our students are required to complete a total of eighteen hours of courses in fields related to the major. This requirement is satisfied by completing the following courses: ECON 2100, 2105, or 2106; one of the following courses that survey European or Asian history: HTS 1031, 2036, 2037, or 2062; and twelve credit hours of foreign language study in a single language. No more than one of four courses for the foreign language requirement may be taken on a pass/fail basis and will only count if passed. Language courses taken on a letter grade basis will only count toward the foreign language requirement if they are at a *C* or above. Students may not enroll in 1000-level courses after the successful completion of any 2000-, 3000-, or 4000-level course. Courses at the 2000, 3000, and 4000 level do not need to be taken in chronological order provided prerequisites are fulfilled.

Major Electives, Non-Major Cluster, and Free Electives

International Affairs majors are encouraged to use electives to tailor-fit the core education they receive with their own specific career and postgraduate objectives. Students are required to complete at least twelve hours of elective courses taught in the Sam Nunn School. Students must achieve a *C* or above in the major electives. Additionally, students must complete a fifteen-hour, non-major cluster taught outside the School. The non-major cluster elective is satisfied either through fifteen hours of coursework in one school or through fifteen hours of coursework comprising a coherent program approved by the School. Free electives are then used to fill the remaining credits needed to reach 122 credits to graduate. B.S. IA students typically have thirteen hours of free elective credit.

Bachelor of Science in International Affairs - International Plan

The Bachelor of Science in International Affairs (B.S. IA) program with International Plan includes instruction in international affairs, foreign languages, ethics and philosophy, social and natural sciences, and computer science. Upper-division coursework provides training in four substantive areas:

1. Technology, ethics, and scientific analysis;
2. International security and diplomacy;
3. Comparative politics, cultures, and societies; and
4. International political economy.

Graduates of the B.S. IA program with International Plan are prepared for advanced graduate and professional study and are ready for employment in internationally oriented firms, government agencies, and non- profit organizations.

International Affairs majors with International Plan are to be engaged in a combination of study, research, or internship abroad for a total of twenty-six weeks. Also, while on the Atlanta campus, they are strongly encouraged to enhance their education through participation in domestic internships, and a host of on- and off-campus programs. In addition to the numerous opportunities afforded through Georgia Tech's Office of International Education, the Sam Nunn School sponsors rigorous summer study abroad programs in the European Union (Brussels), East Asia (China, Japan, Taiwan), Costa Rica, and Argentina (Buenos Aires). Recognizing the importance of professional experience in enhancing a student's education, the Sam Nunn School encourages majors to pursue an internship or participate in the Cooperative Plan in their field of interest. In addition, students are strongly encouraged to get involved in a range of extracurricular activities, including Model United Nations; the European Union Center; AIESEC; Sigma Iota Rho (the International Affairs honor society); the Center for International Strategy, Technology, and Policy; the International Affairs Student Organization; and student conferences. Students are actively involved in the guest lecture series and participate in the biennial Sam Nunn/Bank of America Policy Forum.

BACHELOR OF SCIENCE IN INTERNATIONAL AFFAIRS

WITH "INTERNATIONAL PLAN" DESIGNATOR

2006-2007 DEGREE REQUIREMENTS

School Of International Affairs

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
MODERN LANGUAGE ELECTIVE(S)	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
MODERN LANGUAGE ELECTIVE(S)	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2010 EMPIRICAL METHODS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HTS 1031 or 2036 or 2037 or 2062	3
TOTAL SEMESTER HOURS =	**17**

Summer Term: Faculty-led LBAT/other faculty-led summer study abroad program, or 3 month internship with an organization or company abroad, or a faculty-led research experience abroad

SECOND YEAR-SPRING	HRS
INTA 2100 GREAT POWER RELATIONS (INTERNATIONAL RELATIONS ELECTIVE)	3
INTA 2210 COMPARATIVE POLITICAL PHILOSOPHIES & IDEOLOGIES	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL * (ABROAD) *	HRS
CLUSTER ELECTIVE(S)**	3
INTA ELECTIVE(S)	6
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

Summer Term: International Work, Internship, or Research Experience

THIRD YEAR-SPRING	HRS
INTA 3203 COMPARATIVE POLITICS	

(COUNTRY or REGIONAL ELECTIVE)	3
TECHNICAL REQUIREMENT	3
ECON 2100 or 2105 or 2106	3
INTA 3110 U.S. FOREIGN POLICY	3
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
INTA ELECTIVE(S)	3
CLUSTER ELECTIVE(S)**	6
FREE ELECTIVE(S)	3
INTA 3301 INTERNATIONAL POLITICAL ECONOMY (GLOBAL ECONOMICS ELECTIVE)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
INTA 4400 INTERNATIONAL STRATEGY & POLICY CULMINATING INT'L PLAN COURSE	3
CLUSTER ELECTIVE(S)**	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

****(DEPARTMENTAL APPROVAL REQUIRED)**

Requirements and Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

The International Affairs Core

Student majors acquire an understanding of the core issues in international affairs by completing the following required courses: INTA 1001, 1110, 2010, 2030, 2040, 2100, 2210, 3110, 3203, and 3301. Students are encouraged to complete INTA 2010 early to make the most of their upper-division studies. In addition, student majors are required to round out their studies with INTA 4400, a capstone senior seminar. Students must achieve a *C* or above in the international affairs core courses.

Humanities and Fine Arts

The ability to communicate effectively is essential to success in almost any meaningful endeavor. To this end, students are required to complete six hours of English, including ENGL 1101 and 1102. All Tech students are required to complete an additional six hours of humanities and fine arts, which INTA students satisfy through their mandatory four-semester modern language requirement.

Social Science Electives

In order to satisfy the Untied States /Georgia history and Constitution requirements, students must complete one of the following courses: INTA 1200, HIST 2111, HIST 2112, POL 1101, or PUBP 3000. International Affairs majors are encouraged to take INTA 1200, which examines American government in relation to political and economic systems in countries around the world. INTA students satisfy a required nine hours of social science coursework with their INTA classes.

Mathematics and Sciences

An understanding of scientific methodology and quantitative analytic skills is essential for practitioners and policymakers in today's international arena. The mathematics requirement may be satisfied by one of the following sequences: MATH 1501 and 1502; MATH 1501 and 1711; or MATH 1711 and 1712. In addition, students are required to complete eight hours of laboratory science courses. These courses do not need to be sequential. Any two of the following courses will satisfy the requirement: BIOL 1510, BIOL 1520, CHEM 1310, CHEM 1311 and 1312, EAS 1600, EAS 1601, PHYS 2211, or PHYS 2212.

Computer and Technology Literacy

The information revolution is transforming international affairs. More than ever before, the solution of real-world problems demands an understanding of and the ability to use computers and information technology. In order to gain these essential skills, students are required to complete either CS 1315 or CS 1301 . Students must also complete one additional technology elective from the list of technology course options approved by the School of International Affairs.

International Plan Requirements

For International Plan requirements refer to **International Plan Requirements Page**. Please note that student majors meet the international coursework requirement for the International Plan through courses taken in the International Affairs core, including the culminating course requirement for the International Plan (which is met by INTA4400).

Courses Related to the Major

The B.S. IA with International Plan curriculum is multidisciplinary, and our students are required to complete a total of eighteen hours of courses in fields related to the major. This requirement is satisfied by completing the following courses: ECON 2100, 2105, or 2106; one of the following courses that survey European or Asian history: HTS 1031, 2036, 2037, or 2062; and twelve credit hours of foreign language study in a single language. However, this coursework alone will not be sufficient for meeting the second language requirement of the International Plan. Language proficiency will be determined by testing (not course credits) whether you opt to pursue a proficiency level equal to two years of college-level language study or higher. No more than one of four courses for the foreign language requirement may be taken on a pass/fail basis and will only count if passed. Language courses taken on a letter grade basis will only count toward the foreign language requirement if they are at a *C* or above. Students may not enroll in 1000-level courses after the successful completion of any 2000-, 3000-, or 4000-level course. Courses at the 2000, 3000, and 4000 level do not need to be taken in chronological order provided prerequisites are fulfilled.

Major Electives, Non-Major Cluster, and Free Electives

International Affairs majors are encouraged to use electives to tailor-fit the core education they receive with their own specific career and postgraduate objectives. Students are required to complete at least twelve hours of elective courses taught in the Sam Nunn School. Students must achieve a *C* or above in the major electives. Additionally, students must complete a fifteen-hour, non-major cluster taught outside the School. The non-major cluster elective is satisfied either through fifteen hours of coursework in one school or through fifteen hours of coursework comprising a coherent program approved by the School. Free electives are then used to fill the remaining credits needed to reach 122 credits to graduate. B.S. IA students typically have thirteen hours of free elective credit.

B.S. in International Affairs and Modern Language

In partnership with the School of Modern Languages, the Sam Nunn School offers the Bachelor of Science in International Affairs and Modern Language, with separate concentrations in French, German, Japanese, and Spanish. Students in this program receive intensive foreign language training and learn the fundamentals of dealing with foreign cultures and societies. A detailed description of the degree program is found in the School of Modern Languages section of this Catalog.

BACHELOR OF SCIENCE IN INTERNATIONAL AFFAIRS MODERN LANGUAGE (FRENCH)

2006 - 2007 DEGREE REQUIREMENTS

FRENCH USED AS A MODEL; OTHER OPTIONS INCLUDE CHINESE, GERMAN, JAPANESE, & SPANISH

(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)

School Of International Affairs School Of Modern Languages

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
FREE ELECTIVE(S) (FREN 2001 If Needed)	3
WELLNESS	2
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
COMPUTER & INFORMATION LITERACY * (Departmental Approval Required)	3
FREE ELECTIVE(S) (FREN 2002 If Needed)	3
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
INTA 2010 EMPIRICAL METHODS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
FRENCH ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HTS 1031 or 2036 or 2037 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
INTA 2100 GREAT POWER RELATIONS	3
INTA 2210 COMPARATIVE POLITICAL PHILOSOPHIES & IDEOLOGIES	3
FRENCH ELECTIVE(S)	3
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
INTA 3110 U.S. FOREIGN POLICY	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
ECON 2100 or 2105 or 2106	3
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
INTA 3203 COMPARATIVE POLITICS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS

HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	9
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
INTA 4400 INTERNATIONAL STRATEGY & POLICY	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
CLUSTER ELECTIVE(S) **	4
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

* CP 4510, CS 1331 , CS 1315, ECE 2030, MGT 4058 or MGT 4661 fulfill the Technology Skills requirement.

** The non-major cluster elective is 12 units of additional approved coursework (INTA or ML classes may count if approved)

Requirements and Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

The International Affairs Core

Student majors acquire an understanding of the core issues in international affairs by completing the following required courses: INTA 1001, 1110, 2010, 2030, 2040, 2100, 2210, 3110, 3203, and 3301. Students are encouraged to complete INTA 2010 early to make the most of their upper-division studies. In addition, student majors are required to round out their studies with INTA 4400, a capstone senior seminar. Students must achieve a *C* or above in the international affairs core courses.

Humanities and Fine Arts

The ability to communicate effectively is essential to success in almost any meaningful endeavor. To this end, students are required to complete six hours of English, including ENGL 1101 and 1102. All Tech students are required to complete an additional six hours of humanities and fine arts, which INTA students satisfy through their mandatory four-semester modern language requirement.

Social Science Electives

In order to satisfy the Untied States /Georgia history and Constitution requirements, students must complete one of the following courses: INTA 1200, HIST 2111, HIST 2112, POL 1101, or PUBP 3000. International Affairs majors are encouraged to take INTA 1200, which examines American government in relation to political and economic systems in countries around the world. INTA students satisfy a required nine hours of social science coursework with their INTA classes.

Mathematics and Sciences

An understanding of scientific methodology and quantitative analytic skills is essential for practitioners and policymakers in today's international arena. The mathematics requirement may be satisfied by one of the following sequences: MATH 1501 and 1502; MATH 1501 and 1711; or MATH 1711 and 1712. In addition, students are required to complete eight hours of laboratory science courses. These courses do not need to be sequential. Any two of the following courses will satisfy the requirement: BIOL 1510, BIOL 1520, CHEM 1310, CHEM 1311 and 1312, EAS 1600, EAS 1601, PHYS 2211, or PHYS 2212.

Computer and Technology Literacy

The information revolution is transforming international affairs. More than ever before, the solution of real-world problems demands an understanding of and the ability to use computers and information technology. In order to gain these essential skills, students are required to complete either CS 1315 or CS 1301. Students must also complete one additional technology elective from the list of technology course options approved by the School of International Affairs.

Courses Related to the Major

The B.S. IA curriculum is multidisciplinary, and our students are required to complete a total of eighteen hours of courses in fields related to the major. This requirement is satisfied by completing the following courses: ECON 2100, 2105, or 2106; one of the following courses that survey European or Asian history: HTS 1031, 2036, 2037, or 2062; and twelve credit hours of foreign language study in a single language. No more than one of four courses for the foreign language requirement may be taken on a pass/fail basis and will only count if passed. Language courses taken on a letter grade basis will only count toward the foreign language requirement if they are at a *C* or above. Students may not enroll in 1000-level courses after the successful completion of any 2000-, 3000-, or 4000-level course. Courses at the 2000, 3000, and 4000 level do not need to be taken in chronological order provided prerequisites are fulfilled.

Major Electives, Non-Major Cluster, and Free Electives

International Affairs majors are encouraged to use electives to tailor-fit the core education they receive with their own specific career and postgraduate objectives. Students are required to complete at least twelve hours of elective courses taught in the Sam Nunn School. Students must achieve a *C* or above in the major electives. Additionally, students must complete a fifteen-hour, non-major cluster taught outside the School. The non-major cluster elective is satisfied either through fifteen hours of coursework in one school or through fifteen hours of coursework comprising a coherent program approved by the School. Free electives are then used to fill the remaining credits needed to reach 122 credits to graduate. B.S. IA students typically have thirteen hours of free elective credit.

B.S. in International Affairs and Modern Language - International Plan

In partnership with the School of Modern Languages, the Sam Nunn School offers the Bachelor of Science in International Affairs and Modern Language, with separate concentrations in French, German, Japanese, Spanish and Chinese. Students in this program receive intensive foreign language training and learn the fundamentals of dealing with foreign cultures and societies. A detailed description of the degree program is found in the School of Modern Languages section of this Catalog.

B.S. IN INTERNATIONAL AFFAIRS & MODERN LANGUAGE (FRENCH)

INTERNATIONAL PLAN

2006 - 2007 DEGREE REQUIREMENTS

FRENCH IS USED AS A MODEL; OTHER OPTIONS INCLUDE GERMAN, JAPANESE, AND SPANISH

(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)

School Of International Affairs School Of Modern Languages

Suggested Schedule - *International Experience*
Junior Year Abroad in
France (Sciences Po) Germany (TUM/LMU), Japan (Waseda) or Mexico (Monterrey Tech)

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
FREE ELECTIVE(S) (FREN 2001 If Needed)	3
WELLNESS	2
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
TECHNOLOGY SKILLS ELECTIVE **	3
FREE ELECTIVE(S) (FREN 2002 If Needed)	3
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
INTA 2010 EMPIRICAL METHODS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
FRENCH ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HTS 1031 or 2036 or 2037 or 2062	3
TOTAL SEMESTER HOURS =	**16**

Summer Term: faculty-led LBAT program 9-12 credits in language. Pre-semester intensive language classes at foreign university: 6-12 credits in language and/or culture

SECOND YEAR - SPRING	**HRS**
INTA 2100 GREAT POWER RELATIONS	3
INTA 2210 COMPARATIVE POLITICAL PHILOSOPHIES & IDEOLOGIES	3
FRENCH ELECTIVE(S)	3
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL * (ABROAD) *	**HRS**
INTA 3110 U.S. FOREIGN POLICY	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
ECON 2100 or 2105 or 2106	3
GLOBAL ECONOMICS ELECTIVE	3
CLUSTER ELECTIVE(S)***	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING * (ABROAD) *	**HRS**
INTA 3203 COMPARATIVE POLITICS (SATISFIES COUNTRY or REGIONAL ELECTIVE)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3
INTERNATIONAL RELATIONS ELECTIVE	3
CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
CLUSTER ELECTIVE(S)***	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
INTA 4400 INTERNATIONAL STRATEGY & POLICY (CULMINATING INT'L PLAN COURSE)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
CLUSTER ELECTIVE(S)***	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Junior year abroad in France (Sciences Po, Germany (TUM/LMU), Japan (Waseda) or Mexico (Monterrey Tech)

**CP 4510, CS 1331 , CS 1315, ECE 2030, MGT 4058 or MGT 4661 fulfill the Technology Skills requirement.

***Non-major cluster elective is 12 units of additional approved coursework (INTA or ML classes may count if approved)

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		

FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	

INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	

INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Economics and International Affairs

In partnership with the School of Economics, the Sam Nunn School offers the Bachelor of Science degree in Economics and International Affairs. Students in this program are provided with an understanding of economic theory and practice in the contemporary world, an understanding of the global, interdependent, and multicultural environment in which they live, and a set of quantitative and qualitative analytical skills centered upon policy-relevant issues in the economic and international arenas. A detailed description of the degree program is found in the School of Economics section of this Catalog.

BACHELOR OF SCIENCE IN ECONOMICS & INTERNATIONAL AFFAIRS
2006 - 2007 DEGREE REQUIREMENTS
School Of Economics
Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
INTA 2100 GREAT POWER RELATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HTS 1031 or 2033 or 2036 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 3110 U.S. FOREIGN POLICY	3
INTA ELECTIVE(S)	3
LAB SCIENCE II	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
INTA 3203 COMPARATIVE POLITICS	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
TECHNICAL REQUIREMENT	3
ECONOMICS ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
ECON 4350 International Economics	3
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3

INTA 4400 INTERNATIONAL STRATEGY & POLICY	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** MUST BE APPROVED BY DEPARTMENT**

B.S. in Economics and INTA-International Plan #1

Option 1 (including foreign language proficiency):

1. Two terms abroad: Options include the following:
    1. Summer program plus a semester of study
        1. LBAT or other faculty-led program plus language immersion program
        2. Semester at a foreign university: courses taken in target language
    2. One semester of study at a foreign university plus an internship abroad
        1. LBAT recommended as language preparation plus foreign university intensive program
        2. Semester at a foreign university: courses taken in target language
        3. Three to six month internship with an Organization or Company abroad or a faculty-led international research experience
    3. Two semesters of study at a foreign university
        1. LBAT recommended as language preparation plus foreign university intensive program
        2. Coursework completed in target language
2. Intermediate High proficiency level in a foreign language
    1. Testing based on ACTFL oral proficiency testing in Speaking

Implementation:

1. Degree Requirements remain the same
2. Students earn credit abroad towards ECON/INTA degree with courses approved by Economics
    1. Students advised by host university and request approval of semester schedule from ECON Undergraduate Director and Academic Advisor
    2. ECON Undergraduate Director and Academic Advisor facilitate appropriate credit transfer
3. Students may elect to earn limited credits (generally a maximum of three credits) with the internship by:
    1. agreeing with an ECON or INTA faculty on a written project related to the internship;
    2. agreeing that credit on the language side the project would be completed in the target language with supervision from either ECON, INTA or IAML faculty; and
    3. coordinating the internship with the academic curriculum of the host university (example:

Monterrey Tech provides short in-semester internships for academic credit).

BACHELOR OF SCIENCE IN ECONOMICS & INTERNATIONAL AFFAIRS

INTERNATIONAL PLAN #1

2006 - 2007 DEGREE REQUIREMENTS

School Of Economics School Of International Affairs

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
INTA 2100 GREAT POWER RELATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HTS 1031 or 3030 or 2036 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS (INTERNATIONAL RELATIONS REQUIREMENT)	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 3110 U.S. FOREIGN POLICY	3
ECON 3161 ECONOMETRIC ANALYSIS	3
LAB SCIENCE II	4
TOTAL SEMESTER HOURS =	**16**

Summer Term: LBAT program in target foreign language

THIRD YEAR - FALL **	**HRS**
FREE ELECTIVE(S)	6
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
TECHNICAL REQUIREMENT	3
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA 3203 COMPARATIVE POLITICS (COUNTRY or REGIONAL REQUIREMENT)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
ECON 4350 INTERNATIONAL ECONOMICS	3

INTA 3301 INTERNATIONAL POLITICAL ECONOMY (GLOBAL ECONOMICS REQUIREMENT)	3
TECHNICAL REQUIREMENT	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA CAPSTONE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	HRS
ECONOMICS CAPSTONE	3
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** MUST BE APPROVED BY DEPARTMENT**

****JUNIOR YEAR-FIRST SEMESTER AT A FOREIGN UNIVERSITY: COURSES TAKEN IN TARGET FOREIGN LANGUAGE**

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		

FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	

INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	
ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	

INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

B.S. in Economics and INTA-International Plan #2

Option 2: (including partial conversation skills in a foreign language)

1. Two terms abroad with an option to spend time in an English-speaking, foreign country. Possibilities include an all-English speaking, foreign experience or a combination of your choosing of English and foreign language speaking experiences abroad:
   1. Summer program plus a semester of study
      1. Semester at a foreign, English-speaking university or at a university where a language other than English is spoken
      2. A faculty-led summer program in a foreign, English-speaking country or in a country where a language other than English is spoken
   2. One semester of study at a foreign university plus an internship abroad
      1. Semester at a foreign university: courses taken in target language
      2. 3-6 month internship with an Organization or Company abroad or a faculty-led international research experience
   3. Two semesters of study at a foreign university
2. Partial Conversational Skills in a foreign language
   1. Required to complete two years of college-level study (or equivalent) in a single foreign language with a grade of at least *B* in every course

Implementation:

1. Degree Requirements remain the same
2. Students earn credit abroad towards ECON/INTA degree with courses approved by Economics
   1. Students advised by host university and request approval of semester schedule from ECON Undergraduate Director and Academic Advisor
   2. ECON Undergraduate Director and Academic Advisor facilitate appropriate credit transfer
3. Students may elect to earn limited credits (generally a maximum of 3 credits) with the internship by;
   1. agreeing with an ECON or INTA faculty on a written project related to the internship;
   2. agreeing that credit on the language side the project would be completed in the target language with supervision from either ECON, INTA or IAML faculty; and
   3. coordinating the internship with the academic curriculum of the host university (example: Monterrey Tech provides short in-semester internships for academic credit).

BACHELOR OF SCIENCE IN ECONOMICS & INTERNATIONAL AFFAIRS
INTERNATIONAL PLAN #2
2006 - 2007 DEGREE REQUIREMENTS
School Of Economics School Of International Affairs

Suggested Schedule

FIRST YEAR - FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
INTA 2100 GREAT POWER RELATIONS	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HTS 1031 or 3030 or 2036 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	**HRS**
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS (INTERNATIONAL RELATIONS REQUIREMENT)	3
MODERN LANGUAGE ELECTIVE(S)	3
LAB SCIENCE I	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR - SPRING	**HRS**
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
MODERN LANGUAGE ELECTIVE(S)	3
INTA 3110 U.S. FOREIGN POLICY	3
ECON 3161 ECONOMETRIC ANALYSIS	3
LAB SCIENCE II	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
TECHNICAL REQUIREMENT	3
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA 3203 COMPARATIVE POLITICS (COUNTRY or REGIONAL REQUIREMENT)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING **	**HRS**
FREE ELECTIVE(S)	6
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
TOTAL SEMESTER HOURS =	**15**

Summer Term: international work, internship, or faculty-led research experience

FOURTH YEAR - FALL	**HRS**
ECON 4350 INTERNATIONAL ECONOMICS	3

INTA 3301 INTERNATIONAL POLITICAL ECONOMY (GLOBAL ECONOMICS REQUIREMENT)	3
TECHNICAL REQUIREMENT	3
NON MAJOR CLUSTER ELECTIVE(S)*	3
INTA CAPSTONE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECONOMICS CAPSTONE	3
ECONOMICS ELECTIVE(S)	3
INTA ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** MUST BE APPROVED BY DEPARTMENT**
****JUNIOR YEAR-SECOND SEMESTER AT AN ENGLISH-SPEAKING FOREIGN UNIVERSITY**

Minor Program

The School offers a Minor in International Affairs. This program is designed for students who want a concentration outside their major that provides a greater depth of study than a certificate program. The Minor in International Affairs requires a minimum of eighteen hours of coursework, including INTA 1110 (Introduction to International Relations), one 2000-level course (not to include INTA 2010), and at least twelve hours of upper-division (3000-level or higher) coursework. No more than six hours of Special Topics coursework and three credits of Special Problems coursework may be included in the minor program.

All courses must be taken on a letter-grade basis, and a *C* or better must be received in each course. Courses required by name and number in a student's major degree program may not be included. A student may petition to allow three hours of upper-division non-INTA coursework to count toward completion of the minor if that coursework is clearly relevant to international affairs. More information concerning this program and its requirements is available through the School.

Certificate Programs

The Sam Nunn School, often in conjunction with other units of the Ivan Allen College, administers five certificate programs. These programs enable students to pursue a focused program of study in a specific area of regional/international specialization. The School awards the following certificates:

1. Asian Affairs Certificate (available to majors and non-majors)
2. Latin American Affairs Certificate (available to majors and non-majors)
3. European Affairs Certificate (available to majors and non-majors)
4. European Union Certificate (available to majors and non-majors)
5. International Affairs Certificate (available only to non-majors)

A certificate is awarded upon successful completion of a predetermined twelve-hour cluster of courses approved by the academic advisor or a specific faculty member. All courses must be taken on a letter-grade basis, and a *C* or better must be received in each course. Certificates will be granted only to students who, in addition to the Certificate program requirements, have satisfied requirements for an undergraduate degree. Detailed information concerning these programs and their requirements is available through the School.

Graduate Course Option

Under the Graduate Course Option, undergraduate students with a final grade point average of 3.5 or higher may count six hours of their undergraduate credits toward a master's degree at Georgia Tech in the same field. This means that qualified students could complete the Master of Science in International Affairs with thirty additional hours rather than thirty-six hours.

Graduate Course Option

Under the Graduate Course Option, undergraduate students with a final grade point average of 3.5 or higher may count six hours of their undergraduate credits toward a master's degree at Georgia Tech in the same field. This means that qualified students could complete the Master of Science in International Affairs with thirty additional hours rather than thirty-six hours.

Master of Science in International Affairs

The Master of Science in International Affairs degree program is an eighteen-month program that is adaptable to the interests and needs of a student who intends to immediately enter a professional career requiring advanced training in international affairs or who intends to continue studying at the doctoral level. The program emphasizes both traditional theoretical knowledge of international relations and strategic planning and analysis. The program includes core courses in the following:

1. International relations theory and strategy
2. Comparative politics
3. International political economy
4. International security
5. Empirical research methods
6. Modeling, forecasting, and decision making

Students also have the opportunity to design the program to meet their individual interests through elective offerings in the School and interdisciplinary work in the Schools of Economics and Public Policy; and the Colleges of Computing, Engineering, Management, and others. Overseas programs and internships are encouraged and facilitated by the School.

In addition to thirty-six semester hours of coursework, students must demonstrate foreign language familiarity and economics and computer literacy. These abilities are essential tools for professional or scholarly work in international affairs. Students must satisfy these requirements upon admission or during the program.

Foreign language familiarity is defined as a minimum of one year of college-level work in a single language. This requirement can be fulfilled while in residence or can be demonstrated through an examination taken in the School of Modern Languages.

Economics literacy is satisfied by successful completion of a course or courses in microeconomic and macroeconomic principles and a course in international economics undertaken while at Georgia Tech, or by successful completion of equivalent courses at another institution. Students who complete graduate-level courses in price theory (microeconomics) and national income analysis (macroeconomics) will both satisfy that portion of the literacy requirement and receive elective credit toward their degree.

Computer literacy is satisfied by either:

1. successfully completing (*B* or higher) at least one semester of classes with content including at least one of the following:
    1. Programming computers;
    2. Database design and operation;
    3. Development and operation;
    4. Data analysis (if part of statistics courses, at least two quarters or two semesters);

    5. Simulation model design and use;
    6. Development and use of geographic information or cartography systems; or
    7. Operation of large computer systems/ computer networks.
2. Having held a job for at least six months in which a significant component of the work entailed one of the activities listed above.

The School's master's degree requirements supplement the Institute's master's degree requirements listed in the General Catalog. Students must achieve a grade point average of at least 3.0 to graduate, and no course below grade *C* will count toward graduation. For more information about the M.S. IA program, visit www.inta.gatech.edu/graduate.

School of Literature, Communication, and Culture

Established in 1990
Location: 335 Skiles Building
Telephone: 404.894.2730 or 404.894.2731
Fax: 404.894.1287
Web site: **www.lcc.gatech.edu**

General Information

The School of Literature, Communication, and Culture (LCC) is engaged in rethinking the role of humanities education in an increasingly technological and multicultural environment. The faculty is committed to interdisciplinary research in cultural studies and new media studies at the theoretical and applied levels. In providing humanities and communication courses for all Georgia Tech undergraduates, LCC's curriculum focuses on the scientific and technologically oriented aspects of the humanities, as well as on the incorporation of new electronic media (visual, aural, and textual) into humanities and communication education.

LCC offers a B.S. in Science, Technology, and Culture (STAC), which includes the options of Media Studies, Gender Studies, and Biomedicine and Culture, a B. S. in Computational Media jointly administered with the College of Computing, an M.S. in Information Design and Technology (IDT), and a Ph.D. in Digital Media. Graduates from LCC's undergraduate and graduate programs are positioned to assume important roles as leaders in the exciting new fields developing in the interface between technology and culture. STAC majors receive a rigorous, well-rounded education that equips them not only for careers in government, education, and the private sector, but also for postgraduate study in medicine, law, communication, literature and literary studies, or cultural studies. In addition, they find themselves well prepared for the continual learning necessary for their future lives and careers.

IDT M.S. graduates work as information architects, game designers, interaction designers, project managers, interface designers, and at other emerging professional positions in the changing world of digital media. The Ph.D. in Digital Media, begun in fall 2004, prepares students for research and teaching positions in the academy and industry with specialities such as experimental games, interactive narrative, tangible computing, digital art and design.

Faculty

Chair and McEver Professor

Kenneth Knoespel

Associate Chair and Professor

Carol Senf

Director of Graduate Studies and Professor

Janet Murray

Director of Communications Programs and Wesley Professor of New Media

Jay David Bolter

Director of Undergraduate Studies and Professor

Jay Telotte

Bourne Professor of Poetry

Thomas Lux

Professors Emeriti

Annabelle Jenkins, Maxine Turner

Professors

Philip Auslander, Carol A. Colatrella, Peter McGuire

Associate Professors Emeriti

Edith H. Blicksilver, James Bynum, Sarah E. Jackson

Associate Professors

T. Hugh Crawford, Angela DalleVacche, TyAnna K. Herrington, Blake T. Leland, Robert E. Wood

Assistant Professors

Ian Bogost, Ron Broglio, Deborah R. Grayson, Narin Hassan, Cindy Klestinec, Michael Mateas, Alexandra Mazalek, Michael Nitsche, Colleen Terrell, Eugene Thacker, Andrew Uroskie, Lisa Yaszek

Brittain Fellows

Scott Banville, Andrew Cooper, Francis Desiderio, Khalil Elayan, Kristin Girard, Jonathan Goodwin, Karen Head, Reshmi Hebbar, Bridget Heneghan, Rodney Hill, Caroline Kimberly, Steven Levin, Tom Lilly, Srikanth Mallavarapu, John Matson, Elizabeth Mauldin, Brian McGrath, Derek Merrill, David Morgan, J. C. Reilly, Petra Schweitzer, Melissa Stevenson, Kent Still, Leslie Worthingten, Jennifer Wunder, Frederick Young

Technical Communication Fellows

Michael Fournier, Afshin Hafizi, Ben Miller, Cyndi White

Research Scientists

Ute Fischer

Academic Professional

Shannon Dobranski, Matthew McIntyre

Director of DramaTech

Gregory Abbott

Advanced Placement

Students with a score of 4 or 5 on the College Board Advanced Placement Exam (taken in conjunction with high school classes) in Composition and Literature or Language and Composition receive credit for English 1101. Students with a score of 750 or higher on the SAT II Subject Test in English receive credit for English 1101. Students with a score of four or higher on the International Baccalaureate Exam receive credit for English 1101. Advanced placement credit is not ordinarily given for English 1102.

Regents' Examination

This exam measures proficiency in reading and English composition; a passing score is required by the Board of Regents for graduation. Students who have not passed the exam by the time they have completed forty-five hours of degree credit must schedule RGTR 0198 or RGTE 0199 in their next semester in residence. In addition to RGTR 0198 and RGTE 0199, LCC offers short workshops in preparation for the exam, consultation with those who have failed, and an appeal system for those who fail.

Writing and Communication Intensive Courses

A number of majors require students to complete writing intensive and communication intensive courses. Several LCC classes may be counted toward this requirement. Consult course offerings each semester to determine which courses may be counted toward this requirement.

Bachelor of Science in Computational Media

The B.S. in Computational Media is a collaborative effort by the College of Computing and the School of Literature, Communication, and Culture. The program offers a thorough education in all aspects of the computer as a medium: the technical, the historical-critical, and the applied. Program graduates will have both significant hands-on and theoretical knowledge of computing and an understanding of visual design and the history of media. Graduates will be uniquely positioned to plan, create, and critique new digital media forms for entertainment, education, and business communication.

The program requires thirty-six semester hours of courses in computer science and thirty hours of courses in LCC (in addition to the humanities requirement). A substantial number of required courses in each unit ensures that every student has basic competence in:

1. computational principles;
2. the representation and manipulation of digital media, including graphics and sound;
3. software design;
4. visual and interactive design;
5. digital arts; and
6. media theory and history.

After completing required courses, students specialize in a specific area of media computing. Typical specialty areas include:

1. Interactive games design: This is one of the fastest growing areas of digital media production and is already a $7 billion industry.
2. Special effects: As special effects become more complex and focused on computer-generated imagery, employment in this area will increasingly require expertise in both media and computer science.
3. Culturally informed program design: As programming work is increasingly outsourced to nations offering lower labor costs, programming that adds value through a sophisticated response to the needs of specific corporate and group cultures will offer job security to American programmers.

Depending on their coursework within the B.S. program, students will also be qualified to enter graduate studies in computer science, digital arts, digital media studies, and human-computer interface.

BACHELOR OF SCIENCE IN COMPUTATIONAL MEDIA
2006 - 2007 DEGREE REQUIREMENTS

Interdisciplinary Degree With The College Of Computing And Ivan Allen College

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
CS 1315 or 1301 or 1371	3
TOTAL SEMESTER HOURS =	**17**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
CS 1050 or 1316 or 1331	6
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
LCC 2700 INTRODUCTION TO COMPUTATIONAL MEDIA	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
CS 1050 or 1316 or 1331 or 2260 or 2335 or 2340	3
HUMANITIES ELECTIVE(S)	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR - SPRING	HRS
LCC 2710 or2720 or 2730	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
LCC 2400 or 2500 or 2600	3
CS 2260 or 2335 or 2340 or 4001	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LCC [3254, 3256, 3352] or LCC [2600, 3262, 3362] or LCC [2100, 2116, 3318] or LCC [3202, 3226, 3214]**	3
LCC 2710 or 2720 or 2730 or 3705 or 3710	3
CS 2260 or 2235 or 2340 or 4001	3
LCC ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
LCC 3206 STUDIES IN COMMUNICATION & CULTURE or LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
LCC 2710 or 2720 or 2730 or 3705 or 3710	3
CS 2260 or 2335 or 2340 or 4001	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
LCC [3254, 3256, 3352] or LCC [2600, 3262, 3362] or LCC [2100, 2116, 3318] or LCC [3202, 3226, 3214]**	3
LCC 4699 or 4720 or 4725 or 4730 or 4731 or 4732	3

CS ELECTIVE(S) (3000 or 4000 Level) *	6
CS 4903 SPECIAL PROBLEMS or LCC 4699 UNDERGRADUATE RESEARCH *	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR - SPRING	**HRS**
LCC [3254, 3256, 3352] or LCC [2600, 3262, 3362] or LCC [2100, 2116, 3318] or LCC [3202, 3226, 3214]**	3
CS ELECTIVE(S) (3000 or 4000 Level) *	6
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

* Must be approved by an advisor.
** Must complete 9 hours in a single area.

Requirements and Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Other Requirements

Modern language at the 2000 level or higher-three hours
Philosophy of Science (PST 3115 or 3127)-three hours

Designated Courses in the STAC Major

All students must take forty-two hours of STAC courses including the following groups:

1. LCC 2100
2. Six hours of STAC historical courses (LCC 2102, 2104, 2106, 2108, 2110, 2112, 2114, 2116, 2118)
3. Nine hours of STAC literary/cultural courses (LCC 2202, 2204, 2206, 2208, 2210, 2212, 2214, 2216, 2218, 3202, 3204, 3206, 3208, 3210, 3212, 3214, 3216, 3218, 3220, 3222, 3224, 3226, 3252, 3254, 3256, 3262, 4200, 4600)
4. Nine hours of STAC issues courses (LCC 3302, 3304, 3306, 3308, 3310, 3314, 3316, 3318, 3352, 3362)
5. Nine hours of STAC media/communications courses (LCC 3402, 3404, 3406, 3408, 3410, 3412, 4400, 4402, 4404, 4406)
6. Two additional STAC (LCC) courses

With the permission of the School, a student may substitute up to six hours of LCC special topics courses for any of these courses except LCC 2100.

Mathematics

The mathematics requirement may be satisfied by one of the following sequences: MATH 1711 and 1712, MATH 1501 and 1502, or MATH 1501 and 1711.

Science and Computing

The laboratory science sequence may be satisfied with any two lab science courses offered in chemistry, biology, physics, or earth and atmospheric sciences. Courses need not form a sequence. All LCC students are required to take CS 1315 or CS 1301. In addition, STAC majors must take eight additional hours in science or computing.

Freshman Composition/Humanities/Fine Arts

Students are required to complete six hours in humanities or fine arts in addition to six hours in freshman composition (ENGL 1101 and 1102), for a total of twelve hours.

Social Sciences

Students are required to complete twelve hours of social science credit. These include: a) one course from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 to satisfy state requirements concerning coursework on the history and constitutions of the United States and Georgia; b) one course with an international focus; and c) two additional social science courses.

Non-major Cluster

All students must take a nine-hour concentration from a unit other than Literature, Communication, and Culture. This requirement may be met through an existing certificate program or by a nine-hour concentration approved by LCC and meeting the following requirements:

1. All courses must be above the required courses and distribution requirements in the course curriculum.
2. All courses must be either in one discipline or part of an interdisciplinary cluster grouped around a particular topic.
3. Students in the Media Studies track must choose courses in CS or a related field as approved by LCC advisors.
4. The cumulative average for the concentration must be at least 2.0.

Senior Seminars/Thesis

Each student must complete a senior seminar (LCC 4100, 4400, 4500) or senior thesis (LCC 4102). A student must have a signed contract with a thesis advisor in order to receive permission to register for thesis credit.

Free Electives

Each student must accumulate at least 122 hours of credit toward the Bachelor of Science in Science, Technology, and Culture. Therefore, in addition to the requirements listed here, a student must complete a sufficient number of elective courses either within or outside LCC to complete 122 hours. Typically, this will be nine hours.

Bachelor of Science in Computational Media - International Plan

The CM International Plan follows the Institute model to develop a global competence within the student's major program of study. It thus integrates international studies and experiences with work in all aspects of the computer as a medium, preparing graduates to plan, create, and critique new digital media forms within an international professional environment.

As in the basic CM program, students following the International Plan will take thirty-six hours of courses in CS and thirty hours of courses in LCC (in addition to the basic humanities requirement). Students will also:

1. take three international courses, including one from each of the following categories: international relations, global economics, and a course on a specific country or region;
2. spend two terms abroad engaged in any combination of study abroad, research, or internship;
3. demonstrate language proficiency equivalent to two years of college-level language study (to be determined by testing); and
4. complete a CM capstone course that links international studies with the major.

BACHELOR OF SCIENCE IN COMPUTATIONAL MEDIA
INTERNATIONAL PLAN
2006 - 2007 DEGREE REQUIREMENTS

Interdisciplinary Degree With The College Of Computing And Ivan Allen College

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CS CORE COURSE *	3
LANGUAGE I	3
GT 1000 FRESHMAN SEMINAR ***	1
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
CS CORE COURSE *	3
LANGUAGE II	3
GLOBAL ECONOMICS ELECTIVE	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
CS CORE COURSE *	3
LCC 2700 INTRODUCTION TO COMPUTATIONAL MEDIA	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
LANGUAGE III	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
CS CORE COURSE *	3
CS CORE COURSE *	3
LCC 2400 or 2500 or 2600	3
LCC 2710 or 2720 or 2730	3
LANGUAGE IV	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR - FALL	HRS
CS CORE COURSE *	3
LCC SPECIALTY COURSE	3
LCC 2730 or 3705 or 3710	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - SPRING	HRS
CS CORE COURSE *	3
CS SPECIALTY COURSE	3
LCC SPECIALTY COURSE	3
FREE ELECTIVE(S)	3
INTERNATIONAL RELATIONS ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
LCC 4699 or CS 4903 (CAPSTONE PART 1)	2

CS SPECIALTY COURSE	3
CS SPECIALTY COURSE	3
LCC 2730 or 3705 or 3710	3
LCC SPECIALTY COURSE	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR - SPRING	**HRS**
LCC 4699 or CS 4903 (CAPSTONE PART 2)	2
CS SPECIALTY COURSE	3
LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
LCC 4699 or 4720 or 4725 or 4730 or 4731 or 4732	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***CS CORE COURSES**
CS 1050
CS 1316**, 1301, or 1371
CS 1331
CS 2260
CS 2335
CS 2340
CS 4001

** CS 1315 is the Prerequisite for CS 1316, which may not be taken for credit by students who have already received credit for CS 1331 .

*** GT 1000 is not counted in the 122 total required hours.

Requirements and Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Modern language at the 2000 level or higher 3 hours
Philosophy of Science (PST 3115 or 3127) 3 hours

Mathematics

The mathematics requirement may be satisfied by one of the following sequences: MATH 1711 and 1712, MATH 1501 and 1502, or MATH 1501 and 1711.

Science and Computing

The laboratory science sequence may be satisfied with any two lab science courses offered in chemistry, biology, physics, or earth and atmospheric sciences. Courses need not form a sequence. All LCC students are required to take CS 1315 or CS 1301 . In addition, STAC majors must take eight additional hours in science or computing.

Freshman Composition/Humanities/Fine Arts

Students are required to complete six hours in humanities or fine arts in addition to six hours in freshman composition (ENGL 1101 and 1102), for a total of twelve hours.

Social Sciences

Students are required to complete twelve hours of social science credit. These include: a) one course from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 to satisfy state requirements concerning coursework on the history and constitutions of the United States and Georgia; b) one course with an international focus; and c) two additional social science courses.

Non-major Cluster

All students must take a nine-hour concentration from a unit other than Literature, Communication, and Culture. This requirement may be met through an existing certificate program or by a nine-hour concentration approved by LCC and meeting the following requirements:

1. All courses must be above the required courses and distribution requirements in the course curriculum.
2. All courses must be either in one discipline or part of an interdisciplinary cluster grouped around a particular topic.
3. Students in the Media Studies track must choose courses in CS or a related field as approved by LCC advisors.
4. The cumulative average for the concentration must be at least 2.0.

Senior Seminars/Thesis

Each student must complete a senior seminar (LCC 4100, 4400, 4500) or senior thesis (LCC 4102). A student must have a signed contract with a thesis advisor in order to receive permission to register for thesis credit.

Free Electives

Each student must accumulate at least 122 hours of credit toward the Bachelor of Science in Science, Technology, and Culture. Therefore, in addition to the requirements listed here, a student must complete a sufficient number of elective courses either within or outside LCC to complete 122 hours. Typically, this will be nine hours.

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS

ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		
FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	

INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	
INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		

SPAN 4152	Latin-American Short Story	**x**		
SPAN 4154	Hispanic Modern Drama	**x**		
SPAN 4170	Spanish Applied Linguistics	**x**		
SPAN 4255	Hispanic Drama Workshop	**x**		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		**x**	
ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Computational Media - Research Option

The CM Research Plan follows the Institute model to allow students to incorporate research experiences into the major program of study. Students will complete nine hours of credit research work on various aspects of the computer as a medium, working in such areas as computational principles, the representation and manipulation of digital media, software design, visual and interactive design, digital art, and media theory and history.

As in the basic CM program, students following the Research Plan will take thirty-six hours of courses in CS and thirty hours of courses in LCC (in addition to the basic humanities requirement). Students will also:

1. complete nine hours of undergraduate research; and
2. complete LCC 4700 Writing the Undergraduate Thesis.

BACHELOR OF SCIENCE IN COMPUTATIONAL MEDIA
RESEARCH OPTION
2006 - 2007 DEGREE REQUIREMENTS

Interdisciplinary Degree With The College Of Computing And Ivan Allen College
Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CS CORE COURSE *	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
GT 1000 FRESHMAN SEMINAR ***	1
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
CS CORE COURSE *	3
CS CORE COURSE *	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
LCC 2700 INTRODUCTION TO COMPUTATIONAL MEDIA	3
MATH 2605 CALCULUS III FOR COMPUTER SCIENCE	4
CS CORE COURSE *	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
LCC 2710 or2720 or 2730	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
LCC 2400 or 2500 or 2600	3
CS CORE COURSE *	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
LCC SPECIALTY COURSE	3
CS CORE COURSE *	3
LCC 2730 or 3705 or 3710	3
LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
UNDERGRADUATE RESEARCH	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
CS CORE COURSE *	3
CS SPECIALTY COURSE	3
LCC SPECIALTY COURSE	3
LCC 2730 or 3705 or 3710	3
UNDERGRADUATE RESEARCH	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS
LCC 4699 or CS 4903 (CAPSTONE PART 1)	2
CS SPECIALTY COURSE	3

CS SPECIALTY COURSE	3
LCC SPECIALTY COURSE	3
LCC 4720 or 4725 or 4730 or 4731 or 4732	3
UNDERGRADUATE RESEARCH	3
TOTAL SEMESTER HOURS =	**17**

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FOURTH YEAR - SPRING	**HRS**
LCC 4699 or CS 4903 (CAPSTONE PART 2)	2
CS SPECIALTY COURSE	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	1
LCC 4700 UNDERGRADUATE THESIS WRITING	2
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***CS CORE COURSES**
CS 1050
CS 1316**, 1301, or 1371
CS 1331
CS 2260
CS 2335
CS 2340
CS 4001

** CS 1315 is the Prerequisite for CS 1316, which may not be taken for credit by students who have already received credit for CS 1331 .

*** GT 1000 is not counted in the 122 total required hours.

Requirements and Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Modern language at the 2000 level or higher 3 hours
Philosophy of Science (PST 3115 or 3127) 3 hours

Mathematics

The mathematics requirement may be satisfied by one of the following sequences: MATH 1711 and 1712, MATH 1501 and 1502, or MATH 1501 and 1711.

Science and Computing

The laboratory science sequence may be satisfied with any two lab science courses offered in chemistry, biology, physics, or earth and atmospheric sciences. Courses need not form a sequence. All LCC students are required to take CS 1315 or CS 1301 . In addition, STAC majors must take eight additional hours in science or computing.

Freshman Composition/Humanities/Fine Arts

Students are required to complete six hours in humanities or fine arts in addition to six hours in freshman composition (ENGL 1101 and 1102), for a total of twelve hours.

Social Sciences

Students are required to complete twelve hours of social science credit. These include: a) one course from HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 to satisfy state requirements concerning coursework on the history and constitutions of the United States and Georgia; b) one course with an international focus; and c) two additional social science courses.

Non-major Cluster

All students must take a nine-hour concentration from a unit other than Literature, Communication, and Culture. This requirement may be met through an existing certificate program or by a nine-hour concentration approved by LCC and meeting the following requirements:

1. All courses must be above the required courses and distribution requirements in the course curriculum.
2. All courses must be either in one discipline or part of an interdisciplinary cluster grouped around a particular topic.
3. Students in the Media Studies track must choose courses in CS or a related field as approved by LCC advisors.
4. The cumulative average for the concentration must be at least 2.0.

Senior Seminars/Thesis

Each student must complete a senior seminar (LCC 4100, 4400, 4500) or senior thesis (LCC 4102). A student must have a signed contract with a thesis advisor in order to receive permission to register for thesis credit.

Free Electives

Each student must accumulate at least 122 hours of credit toward the Bachelor of Science in Science, Technology, and Culture. Therefore, in addition to the requirements listed here, a student must complete a sufficient number of elective courses either within or outside LCC to complete 122 hours. Typically, this will be nine hours.

BACHELOR OF SCIENCE IN SCIENCE, TECHNOLOGY, AND CULTURE

Requirements of the B.S. in Science, Technology, and Culture:	
Basic Distribution	59 hours
Major Hours	45 hours
Non-major Cluster	9 hours
Free electives	9 hours
TOTAL	122 hours

Basic Distribution/Core Requirements	
Freshman Composition	6 hours
Mathematics	8 hours
Laboratory Science	8 hours
Computing	3 hours
Science or Computing	8 hours
Humanities and Fine Arts	6 hours
Social Sciences	12 hours • HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200 • an internationally oriented course from an approved list • two additional social science courses
Modern language at the 2000 level or higher	3 hours
Philosophy of Science (PST 3115 or 3127)	3 hours
Wellness	2 hours

BACHELOR OF SCIENCE IN SCIENCE, TECHNOLOGY, AND CULTURE
2006-2007 DEGREE REQUIREMENTS
School Of Literature, Communication, And Culture
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COMPUTING REQUIREMENT	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
LCC 2100 INTRODUCTION TO SCIENCE, TECHNOLOGY, & CULTURE	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
PST 3115 PHILOSOPHY OF SCIENCE or 3127 SCIENCE, TECHNOLOGY, & HUMAN VALUES	3
SCIENCE or COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
LCC ELECTIVE(S) (2100 Series)	3
MODERN LANGUAGE ELECTIVE(S) (2000 Level or Higher)	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S) (International)	3
SCIENCE or COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC ELECTIVE(S) (2200 or 3200 Series)	3
LCC ELECTIVE(S) (3400 Series)	3
FREE ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
FREE ELECTIVE(S)	3
LCC ELECTIVE(S) (2200 or 3200 Series)	3
LCC ELECTIVE(S) (3300 Series)	3
LCC ELECTIVE(S) (3400 Series)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
LCC ELECTIVE(S) (2200 or 4200 Series)	3
LCC ELECTIVE(S) (3300 Series)	3
LCC ELECTIVE(S) (2000 Level or Higher)	3
NON MAJOR CLUSTER	3

FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
LCC ELECTIVE(S) (3400 or 4400 Series)	3
LCC ELECTIVE(S) (3300 Series)	3
LCC ELECTIVE(S) (2000 Level or Higher)	3
LCC 4100 SEMINAR IN SCIENCE, TECHNOLOGY, & CULTURE or 4102 SENIOR THESIS	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science in STaC - Biomedicine and Culture Option

Students who desire to follow careers in the healthcare and medical professions, medical education, science journalism and communications, or in bioethics, public policy, and law as they pertain to medicine are advised to take the Biomedicine and Culture Option of the STaC curriculum. This option also serves as a foundation for graduate work in science and literature, and in a variety of humanities, communications, and public policy-related areas.

This option is designed to provide students with a broad background in the significant concepts, developments, and events in the history of biomedicine and biomedical ethics, and to develop their abilities to think critically and to communicate effectively about the interactions among medicine, science, and social change.

Students selecting the Biomedicine and Culture Option must complete the normal course requirements for the B.S. In addition, they must also:

1. Select their nine hours of STaC literary/cultural courses from among LCC 3206, 3208, 3210, 3212, 3224, 3252, 3256, and 3262,
2. Include in their nine hours of STaC issues courses LCC 3318, and two courses chosen from among LCC 3302, 3304, 3306, 3308, 3310, 3314, and 3316,
3. Take LCC 2300 and LCC 3219 (in place of two LCC electives),
4. Select the non-major cluster from among CS, BIOL, BIOMED, PSYCH, or a related field, or create an interdisciplinary cluster grouped around specific biomedical issues.

BACHELOR OF SCIENCE IN SCIENCE, TECHNOLOGY, AND CULTURE
BIOMEDICINE & CULTURE OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Literature, Communication, And Culture

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
LCC 2100 INTRODUCTION TO SCIENCE, TECHNOLOGY, & CULTURE	3
LCC 2300 INTRODUCTION TO BIOMEDICINE & CULTURE	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
SCIENCE or COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
PST 3115 PHILOSOPHY OF SCIENCE or 3127 SCIENCE, TECHNOLOGY, & HUMAN VALUES	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S) (International)	3
SCIENCE or COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC 3318 BIOMEDICINE & CULTURE	3
LCC ELECTIVE(S) (3400 Series or 4400 Series)	3
FREE ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC ELECTIVE(S) (3200 Series)	3
LCC 3219 LITERATURE AND MEDICINE	3
LCC 3302, 3304, 3306, 3308, 3310, 3314, or 3316	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS

LCC ELECTIVE(S) (3200 Series)	3
LCC 3302, 3304, 3306, 3308, 3310, 3314, or 3316	3
MODERN LANGUAGE ELECTIVE(S)	3
NON MAJOR CLUSTER	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
LCC ELECTIVE(S) (3200 Series)	3
LCC ELECTIVE(S) (3400 or 4400 Series)	6
LCC 4102 SENIOR THESIS or 4300 SEMINAR IN BIOMEDICINE & CULTURE	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science in STAC - Media Studies Option

Students choosing to follow the Media Studies track must distribute classes required for the major by choosing from among the following options:

1. History classes must include two classes chosen from 21XX.
2. Literary/cultural studies must include three classes chosen from 2600, 3206, 3214, 3252, 3254, 3256, 3262.
3. Issues classes must include: 1) 3352 and 3314; and 2) one additional class chosen from 3302, 3304, 3306, 3316, or 3318.
4. Media classes must include three classes chosen from 3402, 3404, 3406, 4402, and 4404.
5. Two additional STAC classes must include:
    1. 2400 or 2500 taken in the second year; and
    2. an additional class chosen from 3408, 3410, 3450, 4400, or 4406 (Media).
6. Thesis or seminar must be chosen from 4400, 4500, or 4102.
7. Non-major cluster must be chosen from CS or other areas approved by LCC faculty.
8. Science and Engineering must be chosen from CS.

BACHELOR OF SCIENCE IN SCIENCE, TECHNOLOGY, AND CULTURE
MEDIA OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Literature, Communication, And Culture
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COMPUTING REQUIREMENT	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
LCC 2100 INTRODUCTION TO SCIENCE, TECHNOLOGY, & CULTURE	3
LCC 2400 INTRODUCTION TO MEDIA STUDIES or LCC 2500 INTRODUCTION TO FILM	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
PST 3115 PHILOSOPHY OF SCIENCE or 3127 SCIENCE, TECHNOLOGY, & HUMAN VALUES	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S) (International)	3
COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
LCC ELECTIVE(S) (3400 Series)	3
FREE ELECTIVE(S)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC 3206, 3252, 3256, or 3262	3
LCC 3352 FILM AND / AS TECHNOLOGY	3
LCC ELECTIVE(S) (3400 Series)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
LCC 3206, 3214, 3252, 3256, or 3262	3
LCC 3302, 3304, 3306, 3316, or 3318	3
MODERN LANGUAGE ELECTIVE(S)	3
NON MAJOR CLUSTER (Computer Science)	3

FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
LCC ELECTIVE(S) (3400 or 4400 Series)	3
LCC ELECTIVE(S) (3300 or 4400 Series)	3
LCC 3206, 3214, 3252, 3256, 3262	3
LCC 4102, 4400, or 4500	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science in STAC - Gender Studies Option

Students choosing to follow the Gender Studies track must distribute classes required for the major by choosing from among the following options:

1. History classes must include: two classes chosen from 21XX.
2. Literary/cultural studies must include LCC 3225 or LCC 3212 plus two classes chosen from 22XX, 32XX, and 42XX.
3. LCC issues classes must include 3304 and two additional classes from 33XX; LCC 3302, 3306, 3308, 3316, and 3318 are recommended.
4. LCC media classes must include three classes chosen from 34XX and 44XX.
5. Additional STAC classes must include: 2200 - Introduction to Gender Studies.
6. Thesis or seminar must be chosen from 4100 or 4102.
7. Non-major cluster must be approved by LCC faculty advisor.

BACHELOR OF SCIENCE IN SCIENCE, TECHNOLOGY, AND CULTURE
GENDER STUDIES OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Literature, Communication, And Culture
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
CS 1301 INTRODUCTION TO COMPUTING or CS 1315 INTRODUCTION TO MEDIA COMPUTATION	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
LCC 2100 INTRODUCTION TO SCIENCE, TECHNOLOGY, & CULTURE	3
SOCIAL SCIENCE ELECTIVE(S)	3
MODERN LANGUAGE ELECTIVE(S) (2000 Level or Higher)	3
PST 3115 PHILOSOPHY OF SCIENCE or 3127 SCIENCE, TECHNOLOGY, & HUMAN VALUES	3
SCIENCE or COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
LCC 2200 INTRODUCTION TO GENDER STUDIES	3
NON-MAJOR CLUSTER	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S) (International)	3
SCIENCE or COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC 3212 WOMEN, LITERATURE, & CULTURE or LCC 3225 GENDER STUDIES IN THE DISCIPLINES	3
LCC ELECTIVE(S) (3400 Series)	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
LCC ELECTIVE(S) (2100 Series)	3
LCC ELECTIVE(S) (3200 Series)	3
LCC 3304 SCIENCE, TECHNOLOGY, & GENDER	3
LCC ELECTIVE(S) (3400 Series)	3
NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
LCC ELECTIVE(S) (3200 Series)	3
LCC 3302, 3306, 3308, 3316, or 3318	3
SOCIAL SCIENCE ELECTIVE	3
NON MAJOR CLUSTER	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
LCC ELECTIVE(S) (3400 or 4400 Series)	3
LCC ELECTIVE(S) (3300 Series)	3
LCC ELECTIVE(S) (2000 Level or Higher)	3
LCC 4100 SEMINAR IN SCIENCE, TECHNOLOGY, & CULTURE or 4102 SENIOR THESIS	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Five-Year B.S./M.S. Degree Program

Students who wish to pursue the five-year B.S./M.S. combination in STAC and IDT must apply to the School after completing at least seventy-five hours of work toward the STAC Media Studies degree. Applicants should have a 3.5 GPA.

Students admitted to the five-year program will select the 4400 seminar option and also take a total of twelve hours of graduate coursework during their final undergraduate year. Six hours of that work, in IDT media courses, will replace the STAC free electives and will count for both undergraduate and graduate credit. During the summer term after their fourth year, students will participate in an approved internship program. During the fifth year, students will take a total of twenty-four hours, including either LCC 6800 (Project) or LCC 7000 (Thesis), and with no more than three courses taken outside the IDT program.

B.S./M.S SCIENCE, TECHNOLOGY, AND CULTURE

2006-2007 DEGREE REQUIREMENTS

School Of Literature, Communication, And Culture

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
LCC 2100 INTRODUCTION TO SCIENCE, TECHNOLOGY, & CULTURE	3
LCC 2400 INTRODUCTION TO MEDIA STUDIES	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
PST 3115 or 3127	3
MODERN LANGUAGE ELECTIVE(S) (2000 Level or Higher)	3
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S) (International)	3
SOCIAL SCIENCE ELECTIVE(S)	3
COMPUTER SCIENCE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
LCC ELECTIVE(S) (21xx Series)	3
LCC 3314 TECHNOLOGIES OF REPRESENTATION	3
LCC ELECTIVE(S) (34xx Series) (PRAXIS) (3402)	3
LCC 2600, 3206, 3214, 3252, 3254, 3256, or 3262	3
FREE ELECTIVE(S) (suggested CS 3750)	3

NON MAJOR CLUSTER ELECTIVE(S) (CS)	3
TOTAL SEMESTER HOURS =	**18**

THIRD YEAR-SPRING	**HRS**
LCC ELECTIVE(S) (21xx Series)	3
LCC 2600, 3206, 3214, 3252, 3254, 3256, or 3262	3
LCC 3352 FILM AND / AS TECHNOLOGY	3
LCC 34xx ELECTIVE (PRAXIS) (3404)	3
NON MAJOR CLUSTER ELECTIVE(S) (CS)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
LCC 3206, 3214, 3252, 3254, 3256, or 3262	3
LCC 33xx	3
ML ELECTIVE	3
NON MAJOR CLUSTER (CS)	3
LCC 6310 (does not count for undergrad. credit)	3
LCC 6311	3
TOTAL SEMESTER HOURS =	**18**

FOURTH YEAR-SPRING	**HRS**
LCC 34xx-44xx ELECTIVE (PRAXIS)	3
LCC 34xx-44xx ELECTIVE	3
LCC 6313 (does not count for undergrad. credit)	3
LCC 4400	3
LCC 6312	3
TOTAL SEMESTER HOURS =	**12**

FIFTH YEAR-FALL	**HRS**
LCC 6650 PROJECT STUDIO (or elective)	3
2 COURSES FROM LCC 62XX/63XX	6
1 OUTSIDE ELECTIVE (or LCC 62XX/63XX)	3
TOTAL SEMESTER HOURS =	**12**

FIFTH YEAR-SPRING	**HRS**
1 COURSE FROM LCC 62XX/63XX	3
1 OUTSIDE ELECTIVE	3
LCC 6800 or LCC 7000	6
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 150 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Minors and Certificates

LCC provides a minor in Performance Studies and, together with the School of History, Technology, and Society (HTS) and School of Public Policy (SPP), provides a minor in Women, Science, and Technology (WST). Students wishing to pursue either of these minors should consult LCC (or, in the case of the WST minor, either LCC or SPP, WST cordirectors) for detailed information concerning requirements. Courses for both minors are selected from "Courses of Instruction" and, in the case of the WST minor, in the list offered by HTS.

LCC also sponsors a series of certificate programs: in American Literature and Culture, Film Studies, and Literary and Cultural Studies. Students should consult the LCC director of undergraduate studies for detailed information on requirements. The courses for these certificates are among those listed in "Courses of Instruction," and all fulfill humanities requirements.

LCC and HTS also cooperate in providing a certificate in African American Studies. Students should consult LCC or HTS for detailed information concerning requirements. Courses for this certificate are selected from among those listed in "Courses of Instruction" and from the list offered by HTS.

Master of Science in Information Design and Technology

Georgia Tech's M.S. in Information Design and Technology (IDT) is a graduate program of humanities-based professional education for the digital age. IDT students follow a studio- and seminar-based curriculum that places digital design within technical, cultural, aesthetic, and historical contexts. The program rests on the assumption that digital media belong to an historical, aesthetic, and conceptual continuum whose legacy and future must be addressed in order to understand the digital artifact in its own right.

Georgia Tech's IDT program is helping to establish the standard for professional education in information design and to raise the level of professional practice. It is aimed at providing a principled-based education that will guide its graduates over the course of their careers in a rapidly changing technical environment.

Because of its technical and disciplinary diversity, the IDT program can offer students both the practical skills and the theoretical foundation they need to assume leadership roles as designers, producers, and critical analysts of digital media. Graduates of the program pursue careers in commerce, entertainment, art, and education with a variety of national and international organizations. Some go on to Ph.D. work in computer science or the humanities.

The IDT program accepts roughly twenty-five full-time students each fall term. IDT students come from a range of educational backgrounds and have diverse intellectual and creative objectives. Most have significant work experience in a professional field. Students come with academic backgrounds from such fields as acting, anthropology, architecture, communications, computer science, engineering, English studies, graphic design, history, journalism, law, library science, management, marketing, philosophy, social work, software development, technical writing, and television production. The program welcomes a socially diverse and international student body.

Master of Science in Human-Computer Interaction

OVERVIEW

The interdisciplinary Master of Science in Human Computer Interaction (HCI) degree program is a cooperative effort of the College of Computing; the School of Literature, Communication, and Culture; and the School of Psychology. The program provides students with the practical, interdisciplinary skills and theoretical understanding they will need to become leaders in the design, implementation, and evaluation of the computer interfaces of the future.

COURSE OF STUDY

The HCI master's degree is a four-semester program consisting of a total of thirty-six semester hours. Each student will be required to complete a set of core courses, a set of area specialization courses, and a master's project. The core is divided into fixed and flexible sets of courses. Students are required to complete three courses in the fixed core and a subset of courses in the flexible core based upon their academic background. The specific courses for each student will be determined by the HCI program coordinator in consultation with the academic unit. The area specialization courses are determined by the academic unit in which the student resides. The areas of specialization are Computing; Information Design and Technology (IDT, through the School of Literature, Communication, and Culture); and Psychology.

FIXED CORE (9 hours)

CS/PSYC 6750, Human-Computer Interaction (must be taken during the first semester)
PSYC 6018, Principles of Research Design
PSYC 7101, Engineering Psychology I: Methods and Controls

FLEXIBLE CORE (12 hrs Computing and Psychology specializations; 9 hrs IDT)

All specialization courses may also be taken as part of the Flexible Core, but at least 9 hours of the Flexible Core must be taken outside your specialization. A maximum of three hours of CS 8903 may count toward the Flexible Core.

Computing

COA/CS 6763, Design of Environments COA 8901, Special Problems: Network Music
COA 8903, Special Problems: Project Studio in Music Technology
COA 8903, Special Problems: Computer Music Composition
CS 7467, Computer-Supported Collaborative Learning
CS 8803, Special Topics: Computer Audio
CS/PSYC 6795, Introduction to Cognitive Science

International Affairs

INTA 8803, Special Topics: Computers, Communications, and International Development
INTA 8803 / PUBP 8803, Special Topics: Information Technology Policy

Industrial and Systems Engineering

ISyE 6205 / AE 8803, Cognitive Engineering
ISyE 6215, Models in Human-Machine Systems

ISyE 6224, Topics in Human-Integrated Systems
ISyE 6231, Design of Human-Integrated Systems
ISyE 6413, Design and Analysis of Experiments
ISyE 6414, Statistical Modeling and Regression Analysis
ISyE 6739, Basic Statistical Methods

Literature, Communication, and Culture

LCC 6213, Educational Applications of New Media
LCC 6215, Issues in Media Studies
LCC 6314, Design of Networked Media
LCC 6315, Project Production
LCC 6316, Historical Approaches to Digital Media
LCC 6317, Interactive Fiction
LCC 6318, Experimental Media
LCC 6319, Intellectual Property Policy and Law
LCC 6320, Globalization and New Media
LCC 6321, The Architecture of Responsive Spaces
LCC 6325, Game Design and Analysis
LCC 6330, Expressive Virtual Space
LCC 6350 / ARCH 8821 / COA 8904, Spatial Constructions of Meaning
LCC 8000, Proseminar in Media Theory

Music

COA 8901, Network Music
COA 8903, Special Problems: Computer Music Composition
COA 8903, Special Problems: Music Technology Research
COA 8903, Special Problems: Project Studio in Music Technology
MUSI 4803, Special Topics: Interactive Music

Psychology

PSYC 7104, Psychomotor and Cognitive Skills
PSYC 8040, Seminar in Engineering Psychology: Assistive Technologies
PSYC 8040, Seminar in Engineering Psychology: The Psychology of HCI

Public Policy

PUBP 8803, Special Topics: The Internet and Public Policy
Certificate Option for the Flexible Core
Certificate in Management of Technology, **http://mgt.gatech.edu/programs/mba/concen_cert.html**
MGT 6056, Electronic Commerce
MGT 6057, Business Process Analysis and Design
MGT 6111, Innovation and Entrepreneurial Behavior
MGT 6165, Venture Creation
MGT 6326, Collaborative Product Development
MGT 6351, Operations Resource Planning and Execution
MGT 6353, Operations Strategy
MGT 6772, Managing Resources of the Technological Firm
MGT 8803, Special Topics in Management: Database and Customer-Relationship Marketing
MGT 8803, Special Topics in Management: Seminar on Emerging Technologies

PUBP 6401, Science, Technology, and Public Policy

COMPUTING SPECIALIZATION (11 hours)

Software (3 hours):
CS 4452, Human-Centered Computing Concepts
CS 6300, Software Development Process
CS 6452, Prototyping Interactive Systems
CS 6456, Principles of User Interface Software
CS 7470, Mobile and Ubiquitous Computing
CS 8803, Special Topics: Adaptive Personalized Information Environments
CS 8803, Special Topics: Augmented Reality Design

Design, Evaluation, and Cognitive Modeling (6 hours):

CS 6010, Principles of Design
CS 6451, Introduction to Human-Centered Computing
CS 6455, User Interface Design and Evaluation
CS 6460, Educational Technology: Conceptual Foundations
CS 6470, Design of Online Communities
CS 7450, Information Visualization
CS 7460, Collaborative Computing
CS 7610, Modeling and Design
CS/PSYC 7790, Cognitive Modeling
CS 8902, Special Problems

The remaining 2 credit hours may be taken from either section. A maximum of 3 hours of CS 8903 may count toward the Computing specialization. The master's degree requirements for students in the College of Computing supplement those of the Institute. Students must achieve a grade point average of at least 3.0 to graduate, and no course grade below C will count toward graduation.

INFORMATION DESIGN AND TECHNOLOGY (IDT) SPECIALIZATION (12 hours)

Required (may be repeated; up to 6 hours of LCC 6650 may be applied toward the specialization) LCC 6650, Project Studio (enrollment by permission of instructor)

One of the following courses, preferably taken in the first year of study:
LCC 6310, The Computer as an Expressive Medium
LCC 6311, Visual Culture and Design
LCC 6312, Design, Technology, and Representation
LCC 6313, Principles of Interactive Design

Students may fulfill the rest of the required hours with any other LCC 6000- or 8000-level course.

PSYCHOLOGY SPECIALIZATION (11 hours)

Required:
PSYC 6019, Statistical Analysis of Psychological Data I (5 hours)
PSYC 7102, Engineering Psychology II: Displays and Stressors

At least 3 hours from the following courses:

PSYC 6011, Cognitive Psychology
PSYC 6014, Sensation and Perception
PSYC 6020, Statistical Analysis of Psychological Data II (5 hours)

PROJECT (4 hours; 6 hours for students in the IDT specialization)

Each student should complete this requirement, under the supervision of a faculty member, during the last two semesters of the program. Students should also submit a brief written report to their project supervisors at the end of each semester of work, and present their work during the MS-HCI student seminar during the semester of graduation.

CS 8902, Special Problems (repeatable; variable semester hours)
or
PSYC 8903, Special Problems in HCI (repeatable; variable semester hours)

Doctoral Program in Digital Media

The Digital Media Ph.D. was inaugurated in fall 2004 and is one of the first of its kind worldwide. The program educates research-oriented theorists/practitioners who bring the traditions of the humanities and arts to the design of digital media. Graduates of the program are prepared to work in industry, public service, and universities, shaping the emerging digital genres and expanding our understanding and mastery of the representational power of the computer.

Curriculum and Course of Study

Required Courses: (36 hours)

1. LCC 6310 - The Computer as an Expressive Medium (3 hours)
2. LCC 6311 - Visual Culture and Design (3 hours)
3. LCC 6312 - Design, Technology, and Representation (3 hours)
4. LCC 6313 Principles of Interactive Design - (3 hours)
5. LCC 6316 - Historical Approaches to New Media (3 hours)
6. LCC 6650 - Project Studio (3 hours)
7. LCC 6800 - Master's Project (6 hours)
8. LCC 8000 - Pro-Seminar in Media Theory (New Course) (3 hours)
9. LCC 8001 Pro-Seminar I Pro-Seminar in Digital Media Studies (New Course) (3 hours)
10. LCC 8002 - Pro-Seminar II (New Course) (3 hours)
11. LCC 9000 - Doctoral Thesis (6 hours)

Minor Concentration (9 hours)

Three related courses outside the School of Literature, Communication, and Culture. These courses may be in other schools of the Ivan Allen College, or in colleges or in interdisciplinary fields of the Institute. Example of a minor concentration in Computer Science:

1. CS 6750 - Human Computer Interactions
2. CS 6460 - Foundations of Educational Technology
3. CS 6470 - Online Communities

5 Elective Courses (15 hours)

1. LCC 6213 - Educational Applications of New Media (3 hours)

2. LCC 6215 - Issues in Media Studies (3 hours)
3. LCC 6314 - Design of Networked Media (3 hours)
4. LCC 6315 - Project Production (3 hours)
5. LCC 6317 - Interactive Fiction (3 hours)
6. LCC 6318 - Experimental Media (3 hours)
7. LCC 6319 - Intellectual Property Policy and Law (3 hours)
8. LCC 6320 - Globalization and New Media (3 hours)
9. LCC 6321 - Architecture of Responsive Spaces (3 hours)
10. LCC 6330 - Expressive Virtual Space (3 hours)
11. LCC 6650 - Project Studio (repeatable) (3 hours)
12. LCC 7999 - Preparation for Qualifying Examination (variable credit)
13. LCC 8803 - Special Topics (variable credit)
14. LCC 8813 -- Advanced Issues in Interactive Narrative (New Course)
15. LCC 8823 - Special Topics in Game Design and Analysis (New Course)
16. LCC 8910 - Special Problems (variable credit)
17. LCC 7999 - Preparation for Qualifying Examination (variable credit)
18. LCC 8999 - Preparation of Ph.D. Dissertation (variable credit)

Courses from other units may be substituted with approval of advisor.

Portfolio Review

1. Demonstration of programming competency with grounding in foundational principles of software engineering (can be fulfilled with coursework)
2. Digital media project design and implementation at level of outstanding IDT master's project

Comprehensive Examination

1. Taken only after passing portfolio review
2. Based on list of works drawn from the Comprehensive Exam List (see Appendix), with additions proposed as appropriate by candidates in consultation with their Advisory Committees
3. Students must obtain approval of their list by the Graduate Faculty Committee by the end of the semester preceding the semester in which they will be examined.

4. Examinations include a four-part written component, given over a two-week period, with a two-hour oral to be given within ten days of the last completed written segment.
5. The four parts of the examination (based on the four-part Exam List) are:
    1. Media Theory and Related Theoretical Contexts
    2. Traditional Media Technologies and Forms
    3. Digital Media Technologies and Forms
    4. A specialty of the student's choosing

The complete examination list is available online at **www.idt.gatech.edu/phd/phD_exam_list.php**.

Ph.D. Thesis and Defense

After passing the Comprehensive Exam, the student will submit a Thesis Topic Proposal. When the committee chair deems the student is ready, a public oral thesis defense will be scheduled.

Full-time Residency

The program requires a minimum of two semesters in residence with full-time study.

Note: Ph.D. students who choose to can participate in the established internship program of the M.S. program, which customarily takes place between the first and second year.

School of Modern Languages

Established in 1904
Location: Swann Building
Telephone: 404.894.7327
Fax: 404.894.0955
Web site: **www.modlangs.gatech.edu**

General Information

The School of Modern Languages collaborates as an interdisciplinary partner with other units in the Ivan Allen College and across campus to prepare future participants in the global workforce through applied studies in foreign languages that are designed to develop advanced communication skills, creative thinking, and professional competency in the language. The School is building bridges between the languages it teaches and engineering as well as technology units at Georgia Tech by integrating into its programs the kind of professional and social language students expect to use after entering the workforce. At the same time, the School offers an opportunity to develop a broad understanding of culture and literature, and of daily life in the countries whose languages are taught. In this task, the School works closely with other units in Ivan Allen College.

Faculty

Professor and Chair

Phil McKnight

Professor and Associate Chair for Research and Assessment

Vicki B. Galloway

Associate Professor and Director of Undergraduate Studies

David J. Shook

Professors

Angela Labarca, Frank Pilipp, Rumiko Shinzato-Simonds

Associate Professors

Barbara L. Blackbourn-Jansma, Bettina Cothran, Nora Cottille-Foley, Masato Kikuchi, Xiaoliang Li

Assistant Professors

Kelly Comfort, Paul Foster, Stuart Goldberg, Britta Kallin, Marianne Mason, Kyoko Masuda, Cecilia Montes-Alcala

Instructors

Lionel Gall, Masako Kanno, Chao Li, Melissa Pilkington, Angelika Oswalt

Professors Emeriti

Jerry Carroll Brooks, Edmun Richmond, Heidi Rockwood

Graduate Course Option

Under the Graduate Course Option, undergraduate students with a final grade point average of 3.5 or higher may count six hours of their undergraduate credits toward a master's degree at Georgia Tech in the same field. This means that qualified IAML students could complete the Master of Science in International Affairs with thirty additional hours rather than thirty-six hours if they chose to further their study in International Affairs.

Study Abroad

The School of Modern Languages offers special summer immersion programs in China, France, Germany, Japan, Mexico, and Spain. These intensive programs in Languages for Business and Technology (LBAT) consist of six to eight weeks of study abroad in which classroom lessons in business, culture, and technology are combined with field work, cultural events, excursions, and visits to area businesses - all conducted in the target language. The LBAT experience offers a unique opportunity for rapid growth in proficiency, to build a deeper appreciation for the cultures and lifestyle patterns of other peoples, and to make lifelong social and professional contacts. Students will earn nine semester hours (twelve in Spanish when Mexico and Spain are combined) at the 3000 level. These credits count toward a certificate, a minor, or the joint major with International Affairs or Economics. Program costs vary according to the country visited and the length of the program.

Study Abroad and Internships

In collaboration with the Colleges of Engineering and Computing, the School of Modern Languages has initiated a Study Abroad and International Internship program that incorporates intensive applied language acquisition and cultural study. Students who participate in this program can expect to become versed in a foreign culture, fluent in a second language on professional and social levels, and gain advanced practical experience in their field. This program will prepare students for leadership positions in the global workforce in business, industry, and government.

With plans to expand in France, Japan, and China, two programs are currently available: one semester of study at the Technical University of Munich followed by a six-month internship with a global company (for Engineering and Computing students studying German); and one semester of study at Monterrey Tech in Monterrey, Mexico, followed by a six-month internship in a Spanish-speaking country with a global company (for IAML majors and for Engineering, Computing and Management students studying Spanish). The LBAT summer immersion course or equivalent is recommended, since students will need to take classes in the language spoken. HOPE scholarships and other financial aid apply. Additional language classes are available abroad. Students retain regular status at Georgia Tech by enrolling in FS 4000 during the semester of study and in INTN 3011, 3015, 3018, and in the Modern Language or Co-op International Internship (ITN 3011 or COOP 3011) during the internship. Students participating in this program are encouraged to contact their academic advisors, the International Division in the Division of Professional Practice, the Office of International Education, and Modern Languages advisors. See **www.modlangs.gatech.edu** for more information.

Suggested Placement

Students who have never had any course in the language should choose a 1001 course. Students with previous study in French, German, Russian, and Spanish should take the placement test found at **www.modlangs.gatech.edu/student_resources/registration/placement_test.php** in order to determine their optimal beginning placement. Students interested in any of the other languages should consult with a language advisor for beginning placement. See **www.modlangs.gatech.edu** for more information.

Humanities Credits

Each course is essentially a unit in itself, but beginning students are encouraged to pursue at least the elementary two-semester sequence (1001 and 1002) in order to achieve a minimum level of proficiency and to receive humanities credit for both courses. Students enrolled in 1001 may receive humanities credit if and when they complete 1002. Students may not enroll in or receive advanced standing for 1000-level courses after the successful completion of any 2000-, 3000-, or 4000-level course. Courses at the 3000, and 4000 level do not have to be taken in chronological order, provided prerequisites are fulfilled.

With minor exceptions, students can fulfill their humanities requirement for graduation by taking courses in the School of Modern Languages, including linguistics courses and courses taught as ML courses (courses in a language not yet included in the General Catalog). Students should consult the Catalog course descriptions and the section of this catalog titled "Humanities and Social Sciences Requirements," in order to determine which courses are classified as humanities in their respective colleges. With the approval of their major schools, students may take any course offered by the School of Modern Languages on a pass/fail basis.

College Credit for High School Study

Modern Languages will grant six hours of elective credit in Chinese, French, German, Japanese, Russian, or Spanish for high school study in a foreign language, provided the student has two or more years of high school credit in the language in question and has completed six semester hours at the 2000, 3000, or 4000 level with an average *C* or higher.

Students submitting a score of four or five on the Advanced Placement (AP) Examination in French, German, or Spanish "Language Level III" or "Literature Level III" may receive free elective credit for courses numbered 2001-2 in the respective language. Students who submit language scores of five or above for courses taken at the higher level from a certified high school International Baccalaureate program may also receive free elective credit for courses numbered 2001-2 in the respective language.

The School will not grant credit for high school study in a foreign language to students who have taken 1000-level courses or the equivalent at Georgia Tech or at other college-level institutions for which they have received transfer credit. To have the free elective credit entered on their records, students must request that the appropriate form be submitted by the School of Modern Languages to the registrar. This elective credit is not applicable toward fulfillment of the humanities requirement for graduation. No grade is attached to this credit.

B.S. in International Affairs and Modern Languages

Bachelor of Science in International Affairs and Modern Languages In partnership with the Sam Nunn School of International Affairs, the School of Modern Languages offers a joint Bachelor of Science in International Affairs and Modern Languages (IAML) with separate concentrations in Chinese, French, German, Japanese, and Spanish. Students in this program take the same required core courses as for the Bachelor of Science in International Affairs, but also receive intensive foreign language training and learn the fundamentals of dealing with foreign cultures and societies.

BACHELOR OF SCIENCE IN INTERNATIONAL AFFAIRS MODERN LANGUAGE (FRENCH)

2006 - 2007 DEGREE REQUIREMENTS

FRENCH USED AS A MODEL; OTHER OPTIONS INCLUDE CHINESE, GERMAN, JAPANESE, & SPANISH

(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)

School Of International Affairs School Of Modern Languages

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
FREE ELECTIVE(S) (FREN 2001 If Needed)	3
WELLNESS	2
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
COMPUTER & INFORMATION LITERACY * (Departmental Approval Required)	3
FREE ELECTIVE(S) (FREN 2002 If Needed)	3
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
INTA 2010 EMPIRICAL METHODS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
FRENCH ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HTS 1031 or 2036 or 2037 or 2062	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
INTA 2100 GREAT POWER RELATIONS	3
INTA 2210 COMPARATIVE POLITICAL PHILOSOPHIES & IDEOLOGIES	3
FRENCH ELECTIVE(S)	3
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
INTA 3110 U.S. FOREIGN POLICY	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
ECON 2100 or 2105 or 2106	3
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
INTA 3203 COMPARATIVE POLITICS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	HRS

HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	9
CLUSTER ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
INTA 4400 INTERNATIONAL STRATEGY & POLICY	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
CLUSTER ELECTIVE(S) **	4
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

* CP 4510, CS 1331 , CS 1315, ECE 2030, MGT 4058 or MGT 4661 fulfill the Technology Skills requirement.

** The non-major cluster elective is 12 units of additional approved coursework (INTA or ML classes may count if approved)

Requirements and Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Computer and Information Literacy Requirement

The information revolution is transforming international affairs and the application methods of foreign language skills used to access information from international sources. More than ever before, the solution of real-world problems demands an understanding of and the ability to use computers and information technology. In order to gain these essential skills, students are required to complete CS 1315 or CS 1301 and one of the following: CS 1331, CS 4235, CP 4510, ECE 2030, MGT 4051, MGT 4052, MGT 4058, or MGT 4661.

The Modern Languages Core

GEML students must complete a program of twenty-four hours beyond 2002 (beyond 2001 for Chinese and Japanese) in a single language and six free electives (may include 2001, 2002 for students entering Georgia Tech with little or no language preparation in high school).

Graduates of the GEML program are prepared for advanced graduate and professional study and are ready for employment in internationally oriented firms, government agencies, and non-profit organizations.

GEML majors are strongly encouraged to enroll in the intensive summer programs (LBAT) offered by the School of Modern Languages: CHIN 3691-92-93 taught in Yangzhou, China; FREN 3691-92-93, taught in Toulouse, France; GRMN 3695-96-97, taught in Weimar and Munich, Germany; JAPN 3691-92-93, taught in Fukuoka, Japan; and SPAN 3691-92-93-94, taught in Madrid, Spain, and Mexico City, Mexico.

GEML majors are also strongly encouraged to take a capstone class taught jointly by faculty members of Economics and Modern Languages in the language of their major.

Classes taken in the Modern Languages core will only count toward degree requirements if they are at a grade of *B* or above.

Humanities and Fine Arts

The ability to communicate effectively is essential to success in almost any meaningful endeavor. To this end, students are required to complete six hours of English, including ENGL 1101 and 1102. All Tech students are required to complete an additional six hours of humanities and fine arts, which GEML students automatically satisfy through their mandatory Modern Language required courses.

Social Science Electives

In order to satisfy the Untied States /Georgia history and Constitution requirements, students must complete one of the following courses: INTA 1200, HIST 2111, HIST 2112, POL 1101, or PUBP 3000. IAML majors are encouraged to take INTA 1200, which examines American government in relation to political and economic systems in countries around the world. IAML students satisfy a required nine hours of social science coursework with their INTA classes.

Mathematics and Sciences

An understanding of scientific methodology and quantitative analytic skills is essential for practitioners and policymakers in today's international arena. The mathematics requirement may be satisfied by one of the following sequences: MATH 1501 and 1502; MATH 1501 and 1711; or MATH 1711 and 1712. In addition, students are required to complete eight hours of laboratory science courses. These courses do not need to be sequential. Any two of the following courses will satisfy the requirement: BIOL 1510, BIOL 1520, CHEM 1310, CHEM 1311 and 1312, EAS 1600, EAS 1601, PHYS 2211, or PHYS 2212.

Computer and Technology Literacy

The information revolution is transforming international affairs and the application methods of foreign language skills used to access information from international sources. More than ever before, the solution of real-world problems demands an understanding of and the ability to use computers and information technology. In order to gain these essential skills, students are required to complete either CS 1315 or CS 1301. Additionally, students must complete one technology elective from the list of technology course options available on the INTA Web site: **www.inta.gatech.edu**.

Courses Related to the Major

The B.S. GEML curriculum is multidisciplinary, and our students are required to complete some courses in fields related to their major. This requirement is satisfied by completing the following courses: ECON 2100, 2105, or 2106 and one of the following courses that survey European or Asian history: HTS 1031, 2036, 2037, or 2062.

Free Electives

Global Economics and Modern Language majors are encouraged to use electives to tailor-fit the core education they receive with their own specific career and postgraduate objectives. Students must complete twenty-eight hours of free electives. They should explore and discuss with their ECON and GEML advisors the possibilities of pursuing a minor and/or a certificate counting toward their required free electives.

B.S. in International Affairs and Modern Languages - International Plan

The degree requirements for the International Affairs and Modern Languages (Chinese, French, German, Japanese and Spanish)-International Plan are basically the same as for the IAML degree, except that students are required to spend two terms abroad and then achieve Intermediate High (for Chinese and Japanese: Intermediate Low) on the standardized ACTFL testing scale during an oral interview. The costs of the test will be paid for by the School of Modern Languages for each student. The terms abroad may typically consist of one semester of study plus a significant amount of time spent with a research or work project abroad. Students may also opt for a second semester. IAML-IP majors are also strongly encouraged to enroll in the LBAT intensive summer programs offered by the School of Modern Languages.

In addition to gaining advanced global competence, the International Plan designation will set you apart from other applicants with recruiters from top companies and governmental agencies. Other Required Courses include the following, and these can easily be obtained within the regular required curriculum offerings of INTA and Modern Languages. These requirements can also be met with courses taken abroad, upon consultation with IAML degree advisors.

1. At least one course focused on international relations historically and theoretically, including topics such as the role of state sovereignty and nationalism and non-state actors in the international system; international conflict, peace, security, intervention, and nation-building; international organizations, law, and ethics; transnational problems of the environment, terrorism, health, and migration; among other issues (see INTA courses).
2. At least one course that provides a historical and theoretical understanding of the global economy, including topics such as international trade, finance, investment, and production; regional economic integration (such as the EU); economic development and modernization; and questions of natural resource sustainability.
3. At least one course that provides familiarity with an area of the world or a country that allows them to make systematic comparisons with their own society and culture. This course could come from various disciplinary perspectives, including history, public policy, philosophy, international affairs, literature, economics, management, architecture, among others. Upper division Modern Language course will count here.
4. A culminating course, occurring either at the end of or after the international experience that integrates knowledge of the discipline and the international experience in a global context.

B.S. IN INTERNATIONAL AFFAIRS & MODERN LANGUAGE (FRENCH)
INTERNATIONAL PLAN
2006 - 2007 DEGREE REQUIREMENTS
FRENCH IS USED AS A MODEL; OTHER OPTIONS INCLUDE GERMAN, JAPANESE, AND SPANISH
(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)

School Of International Affairs School Of Modern Languages

Suggested Schedule - *International Experience*
Junior Year Abroad in
France (Sciences Po) Germany (TUM/LMU), Japan (Waseda) or Mexico (Monterrey Tech)

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
CS 1315 INTRODUCTION TO MEDIA COMPUTATION or CS 1301 INTRODUCTION TO COMPUTING	3
FREE ELECTIVE(S) (FREN 2001 If Needed)	3
WELLNESS	2
INTA 1001 ORIENTATION TO INTERNATIONAL AFFAIRS	1
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
TECHNOLOGY SKILLS ELECTIVE **	3
FREE ELECTIVE(S) (FREN 2002 If Needed)	3
INTA 1110 INTRODUCTION TO INTERNATIONAL RELATIONS	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
INTA 2010 EMPIRICAL METHODS	3
INTA 2030 ETHICS IN INTERNATIONAL AFFAIRS	3
FRENCH ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
HTS 1031 or 2036 or 2037 or 2062	3
TOTAL SEMESTER HOURS =	**16**

Summer Term: faculty-led LBAT program 9-12 credits in language. Pre-semester intensive language classes at foreign university: 6-12 credits in language and/or culture

SECOND YEAR - SPRING	HRS
INTA 2100 GREAT POWER RELATIONS	3
INTA 2210 COMPARATIVE POLITICAL PHILOSOPHIES & IDEOLOGIES	3
FRENCH ELECTIVE(S)	3
INTA 2040 SCIENCE, TECHNOLOGY & INTERNATIONAL AFFAIRS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL * (ABROAD) *	HRS
INTA 3110 U.S. FOREIGN POLICY	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
ECON 2100 or 2105 or 2106	3
GLOBAL ECONOMICS ELECTIVE	3
CLUSTER ELECTIVE(S)***	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING * (ABROAD) *	**HRS**
INTA 3203 COMPARATIVE POLITICS (SATISFIES COUNTRY or REGIONAL ELECTIVE)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
INTA 3301 INTERNATIONAL POLITICAL ECONOMY	3
INTERNATIONAL RELATIONS ELECTIVE	3
CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - FALL	**HRS**
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
CLUSTER ELECTIVE(S)***	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
INTA 4400 INTERNATIONAL STRATEGY & POLICY (CULMINATING INT'L PLAN COURSE)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
CLUSTER ELECTIVE(S)***	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Junior year abroad in France (Sciences Po, Germany (TUM/LMU), Japan (Waseda) or Mexico (Monterrey Tech)

**CP 4510, CS 1331 , CS 1315, ECE 2030, MGT 4058 or MGT 4661 fulfill the Technology Skills requirement.

***Non-major cluster elective is 12 units of additional approved coursework (INTA or ML classes may count if approved)

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Bachelor of Science in Global Economics and Modern Languages

The School of Modern Languages and the School of Economics offer a joint Bachelor of Science degree in Global Economics and Modern Languages, with separate language concentrations in Chinese, French, German, Japanese, and Spanish. Students in this program take the same required core courses as for the Bachelor of Science in Economics, but also receive intensive foreign language training and learn the fundamentals of dealing with foreign cultures and societies. The degree will serve the requirements of industry and government agencies with graduates capable of understanding the global, economically interdependent, multilingual, and multicultural environments in which we exist, and who have in-depth knowledge of not just their own cultures, but the capacity to function effectively in a second culture. Language requirements for the degree are the same as those for the International Affairs and Modern Languages (IAML) degree. Students must earn twenty-four credit hours of language electives in a single language (French, German, Japanese, or Spanish) and beyond the level of the 2002 course (beyond 2001 for Japanese and Chinese), and six free electives (may include 2001, 2002 for students entering Georgia Tech with little or no language preparation in high school). Courses that count toward the major will be approved by advisors.

B.S. IN GLOBAL ECONOMICS & MODERN LANGUAGES (FRENCH)
2006 - 2007 DEGREE REQUIREMENTS
FRENCH USED AS A MODEL; OTHER OPTIONS INCLUDE CHINESE, GERMAN, JAPANESE, & SPANISH
(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)
School Of Economics

Suggested Schedule

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
FREE ELECTIVE(S) (French 2001 if needed)	3
WELLNESS	2
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
FREE ELECTIVE(S) (French 2002 if needed)	3
COMPUTING REQUIREMENT	3
ENGINEERING / SCIENCE / MATHEMATICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
FRENCH ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - SPRING	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
FREE ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL	HRS
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR - SPRING	HRS
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
ECON 3150 ECONOMIC & FINANCIAL MODELING	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR - FALL	HRS
ECON 4160 FORECASTING	3
FREE ELECTIVE(S)	6
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3

NON MAJOR CLUSTER ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

B.S. in Global Economics and Modern Languages - International Plan

The degree requirements for the Global Economics and Modern Language (Chinese, French, German, Japanese and Spanish)-International Plan are basically the same as for the GEML degree, except that students are required to spend two terms abroad and then achieve Intermediate High (for Chinese and Japanese: Intermediate Low) on the standardized ACTFL testing scale during an oral interview. The costs of the test will be paid for by the School of Modern Languages for each student. The terms abroad may typically consist of one semester of study plus a significant amount of time spent with a research or work project abroad. Students may also opt for a second semester. GEML-IP majors are also strongly encouraged to enroll in the LBAT intensive summer programs offered by the School of Modern Languages.

In addition to gaining advanced global competence, the International Plan designation will set you apart from other applicants with recruiters from top companies and governmental agencies.

Other Required Courses include the following, and these can easily be obtained within the regular required curriculum offerings of ECON and Modern Languages. These requirements can also be met with courses taken abroad, upon consultation with ECON degree advisors.

1. 5. At least one course focused on international relations historically and theoretically, including topics such as the role of state sovereignty and nationalism and non-state actors in the international system; international conflict, peace, security, intervention, and nation-building; international organizations, law, and ethics; transnational problems of the environment, terrorism, health, and migration; among other issues (see INTA courses).
2. 6. At least one course that provides a historical and theoretical understanding of the global economy, including topics such as international trade, finance, investment, and production; regional economic integration (such as the EU); economic development and modernization; and questions of natural resource sustainability.
3. 7. At least one course that provides familiarity with an area of the world or a country that allows them to make systematic comparisons with their own society and culture. This course could come from various disciplinary perspectives, including history, public policy, philosophy, international affairs, literature, economics, management, architecture, among others. Upper division Modern Language course will count here.
4. 8. A culminating course, occurring either at the end of or after the international experience that integrates knowledge of the discipline and the international experience in a global context.

B.S. IN GLOBAL ECONOMICS & MODERN LANGUAGES (FRENCH)
INTERNATIONAL PLAN
2006 - 2007 DEGREE REQUIREMENTS
FRENCH IS USED AS A MODEL; OTHER OPTIONS INCLUDE GERMAN, JAPANESE, AND SPANISH
(MODERN LANGUAGE COURSES MUST BE APPROVED BY AN ADVISOR)

School Of Economics   School Of Modern Languages

Suggested Schedule - *International Experience*
Junior Year Abroad in
France (Sciences Po) Germany (TUM/LMU/Leipzig), Japan (Waseda) or Mexico (Monterrey Tech)

FIRST YEAR - FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
FREE ELECTIVE(S) (French 2001 if needed)	3
WELLNESS	2
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR - SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II or MATH 1711 FINITE MATHEMATICS	4
FREE ELECTIVE(S) (French 2002 if needed)	3
COMPUTING REQUIREMENT **	3
ENGINEERING / SCIENCE / MATHEMATICS ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR - FALL	HRS
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
MGT 2250 MANAGEMENT STATISTICS	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
FRENCH ELECTIVE(S) SATISFIES COUNTRY or REGIONAL ELECTIVE	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

Summer Term: faculty-led LBAT program 9-12 credits in language. Pre-semester intensive language classes at foreign university: 6-12 credits in language and/or culture

SECOND YEAR - SPRING	HRS
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
SOCIAL SCIENCE ELECTIVE(S)	3
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR - FALL * (ABROAD) *	HRS
ECON 3110 ADVANCED MICROECONOMIC ANALYSIS	3
ECON 3161 ECONOMETRIC ANALYSIS	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
GLOBAL ECONOMICS ELECTIVE (SS)	3
TOTAL SEMESTER HOURS =	**15**

Summer Term: May complete international work, internship, or research experience

THIRD YEAR - SPRING * (ABROAD) *	**HRS**
ECON 3120 ADVANCED MACROECONOMIC ANALYSIS	3
ECON 3150 ECONOMIC & FINANCIAL MODELING	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	6
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**17**

FOURTH YEAR - FALL	**HRS**
ECON 4160 FORECASTING	3
FREE ELECTIVE(S)	6
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
NON MAJOR CLUSTER ELECTIVE(S) INTERNATIONAL RELATIONS ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR - SPRING	**HRS**
ECON 4910 INDIVIDUAL RESEARCH IN ECONOMICS	3
ECONOMICS ELECTIVE(S)	3
FRENCH ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S) (CULMINATING INT'L PLAN COURSE)	3
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*Junior Year Abroad in France (Sciences Po, Germany (TUM/LMU/Leipzig), Japan (Waseda) or Mexico (Monterrey Tech)

**CP 4510, CS 1331 , CS 1315, ECE 2030, MGT 4058 or MGT 4661

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		**x**	
ECON 4350	International Economics		**x**	
INTA 3301	International Political Economy		**x**	
INTA 3303	Political Economy of Development		**x**	
INTA 3304	International Trade and Production		**x**	
MGT 3660	International Business			

Minor Programs

The School of Modern Languages offers minors in Chinese, French, German, Japanese, and Spanish as well as in Russian Studies. This program is designed for students who wish to develop their language skills to at least an intermediate level and to provide themselves with a greater depth than possible with a certificate program. Students must earn eighteen credit hours of language electives in a single language (Chinese, French, German, Japanese, or Spanish) and beyond the level of the 2002 course (beyond 2001 for Chinese, Japanese and Russian). Students pursuing a minor in Russian Studies should take their electives in at least two different departments/schools (the School of Modern Languages, International Affairs, Literature, Communication, and Culture, etc.).

Students wishing to pursue one or more of these minors should consult with the Director of Undergraduate Studies in Modern Languages for detailed information and for approval at the completion of the coursework. All courses counting toward a minor must be taken on a letter-grade basis, and a grade of *B* or better must be received in each course.

Certificate Programs

Certificates are available in Chinese, French, German, Japanese, and Spanish, as well as in Russian Studies. To receive a certificate in one of these options, students must take twelve semester hours of courses beyond the 2000 level; Chinese, Japanese and Russian students must take twelve semester hours beyond 2001. A certificate in linguistics is also available and consists of twelve semester hours approved by the School of Modern Languages and the School of Psychology. All courses counting toward a minor must be taken on a letter-grade basis, and a grade of *B* or better must be received in each course. Students should submit the certificate approval form in the main office in Modern Languages upon completion of the certificate coursework.

School of Public Policy

Established in 1990
Location: 107 D. M. Smith Building,
685 Cherry Street
Telephone: 404.894.6822
Fax: 404.385.0504
Web site: **www.spp.gatech.edu**

General Information

Who will govern the Internet, and by what rules? Which new reproductive technologies will be developed and which prohibited by law? How do we balance economic growth and the needs of ecological systems? How can we map a knowledge economy to plan investments in new technology. Public Policy is the process of defining, debating, and deciding issues like these. At Georgia Tech, the study of public policy centers on such issues; that is, policy issues concerning science and technology. This enables us to provide our graduates with the specialized knowledge that is increasingly essential for effective policy making in a technical world.

At Georgia Tech, public policy students learn how to analyze, study, and solve problems that affect us all. Students explore controversies over technology-intensive issues, and learn how to bring data and analysis into the decision process. Graduates can be found in government, nonprofit organizations, business, or law working as consultants, policy analysts, managers, and lawyers.

The School of Public Policy offers B.S., M.S., and Ph.D. degrees in Public Policy, and there is a five-year program for earning both the B.S./M.S degrees. Students interested in public policy in the urban context will also find relevant courses offered by the City and Regional Planning Program in the College of Architecture.

Faculty

Chair and Professor

Diana Hicks

Professors

Barry Bozeman, Susan Cozzens, Bryan G. Norton, Georgia Persons, Philip Shapira

Associate Professors

Richard P. Barke, Roberta M. Berry, Ann Bostrom, Michael Hoffmann, Gordon Kingsley, Hans Klein, Cheryl Leggon, Juan Rogers

Assistant Professors

Marco Castillo, Monica Gaughan, Jon J. Johnston, Robert Kirkman, Douglas Noonan, Jennifer Clark, Chris Weible

Joint Professors

Michael Elliott, Nancy Nersessian, Michael Rodgers, Sue V. Rosser, David Sawicki

Joint Associate Professors

Valerie Thomas

Joint Assistant Professors

Danny Breznitz

Professors Emeriti

Stanley Carpenter, Alan Porter, J. David Roessner

Bachelor of Science in Public Policy

The Bachelor of Science in Public Policy (B.S. PP) is designed to provide an education that combines strong analytical skills with understanding of a range of substantive policy issues and the political, social, and cultural forces that shape public policies. The B.S. PP core courses provide students with the broad political and philosophical foundations of thought pertinent to public policy, a base of rigorous quantitative and qualitative analytical approaches, and a solid understanding of the political, social, and cultural dynamics that structure policy debates and policy outcomes. Elective courses are offered in such areas as environmental policy, science and technology policy, information and telecommunication policy, and regional development policy. The program's emphasis on the development of problem-solving and analytical skills constitutes a strong comparative advantage for B.S. PP graduates.

BACHELOR OF SCIENCE IN PUBLIC POLICY

2006-2007 DEGREE REQUIREMENTS

School Of Public Policy

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I or MATH 1712 SURVEY OF CALCULUS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
POL 1101 AMERICAN GOVERNMENT	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II orMATH 1711 FINITE MATHEMATICS	4
LAB SCIENCE (Biol, Chem, Eas, Phys)	4
COMPUTING REQUIREMENT	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
PST 2050 PHILOSOPHY & POLITICAL THEORY	3
PUBP 2012 FOUNDATIONS OF PUBLIC POLICY	3
SCIENCE / ENGINEERING ELECTIVE *	3
HIST 2111 the Untied States TO 1877 or 2112 the Untied States SINCE 1877	3
ECON 2105 PRINCIPLES OF MACROECONOMICS	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	HRS
PUBP 3010 ORGANIZATIONS & POLICY IMPLEMENTATION	3
PST 2068 SCIENCE & VALUES IN THE POLICY PROCESS	3
SCIENCE / ENGINEERING ELECTIVE *	3
HISTORY ELECTIVE(S)	3
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
PUBP 3201 INTRODUCTION TO SOCIAL POLICY	3
PUBP 4113 STATISTICAL ANALYSIS	3
PUBLIC POLICY ELECTIVE(S)*	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
PUBP 3110 RESEARCH METHODS & PROBLEM SOLVING	3
PUBP 3600 SUSTAINABILITY, TECHNOLOGY, & POLICY	3
PUBLIC POLICY ELECTIVE(S) *	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	4
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
PUBLIC POLICY ELECTIVE(S)	6
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
PUBP 4600 SENIOR THESIS	3
PUBP ELECTIVE(S) (3000 or 4000 Level)	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

***(DEPARTMENTAL APPROVAL REQUIRED)**

Requirements and Electives

Computing Requirement

Students must complete either CS 1315, CS 1301 , or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Designated Courses in the Major

The core curriculum for the major consists of:

POL 1101	Government of the Untied States
PST 2050	Philosophy and Political Theory
PST 2068	Science and Values in the Policy Process
PUBP 2012	Foundations of Public Policy
PUBP 3010	Organizations and Policy Implementation
PUBP 3110	Research Methods and Problem Solving
PUBP 3201	Introduction to Social Policy
PUBP 3600	Sustainability, Technology, and Policy
PUBP 4113	Statistical Analysis for Public Policy
PUBP 4600	Senior Seminar/Thesis

A *C* or better is required in all BSPP core courses. No core courses may be taken on a pass/fail basis.

Elective Courses in the Major

Students must take an additional fifteen hours of courses in public policy as electives, usually focusing on a concentration in a substantive area of public policy or in policy analytic methods. These courses are selected from among those with PUBP, POL, and PST prefixes, in consultation with an advisor.

Non-major Cluster

Students must take a minimum of twelve hours of courses related to the study of public policy. These courses include HIST 2112, ECON 2105, ECON 2106, and another course chosen in consultation with the student's advisor.

Senior Seminar/Thesis

A capstone course usually taken in the student's last year before graduation, the Senior Seminar and Thesis (PUBP 4600) involves writing an original policy analysis relevant to a public or non-profit agency.

Mathematics

Previous coursework in calculus is assumed in the core statistics course for majors as well as in economics courses in public policy. To prepare, students are advised to fulfill the mathematics requirement by taking MATH 1501-2. MATH 1711-12, or MATH 1711 with either 1501 or 1502, will also satisfy the requirement. Students cannot receive credit for both MATH 1712 and MATH 1501 or 1502.

Science and Engineering

Public policy majors must take two laboratory science courses and two additional courses in science-or engineering-related fields. These courses must be chosen in consultation with the student's advisor.

Social Sciences

The twelve-hour social sciences requirement may be satisfied by courses in history, economics, international affairs, political science, public policy, sociology, and selected courses in psychology. Public Policy majors must take one of the following: HIST 2111, HIST 2112, POL 1101, or PUBP 3000 (to satisfy state requirements regarding coursework on the history and constitutions of the United States and Georgia.) Public Policy majors are strongly urged to take POL 1101 or PUBP 3000. POL 1101 can be counted both as a designated course for the degree and as a social science requirement. Courses must be chosen in consultation with the student's advisor.

Humanities and Fine Arts

Students are required to complete ENGL 1101-2 and an additional six hours in the humanities and fine arts. Additional courses may be chosen from the list of approved humanities courses in this catalog. Public policy majors may not count PST courses for both their degree requirements and the humanities and fine arts requirements.

Free Electives

To graduate, each student must have accumulated at least 120 semester hours of credit toward the Bachelor of Science in Public Policy degree. Therefore, in addition to the requirements listed previously, the student must take a sufficient number of elective courses either within or outside Public Policy to reach 120 hours. Typically, this will allow the student approximately twenty-six hours of free electives.

B.S./M.S. Public Policy (Five-year)

The School of Public Policy offers a five-year B.S./M.S. program for students enrolled in the undergraduate program who demonstrate an interest in and ability for additional education beyond the B.S. degree.

Students in the B.S./M.S. program will remain undergraduates until they meet requirements for the undergraduate degree, at which point they will receive their B.S. degree and be changed to graduate status. Students will be eligible to apply for the program after completion of thirty semester credit hours at Georgia Tech (i.e., at the end of their first year) and if they show appropriate progress in their degree program thereafter. Any student in good standing in the B.S. PP program is eligible to apply to the five-year program. Admissions decisions will be based on GPA and judgements of the faculty who have served as advisors or instructors. Continuation in the program will require the student to maintain a GPA of 3.0 or higher in public policy courses. The program will not penalize students who opt out after the bachelor's degree. Students participating in this program will be eligible for the six semester credit-hour **Graduate Course Option**.

The graduate-level credits required in the Five-Year B.S./M.S. Program are usually as follows:

1. Core-twenty-two hours
2. Electives-twelve hours
3. Research paper-three hours

Total 37 hours

Specific Requirements for the Five-Year Program include:

1. PUBP 6001 Introduction to Public Policy (1 semester hour, all other courses are 3 semester hours)
2. PUBP 6010 Ethics, Epistemology, and Public Policy
3. PUBP 6112 Research Design in Policy Science [NOTE: this course should be taken as an undergraduate instead of PUBP 3110 and will count for both programs]
4. PUBP 6114 Applied Policy Methods and Data Analysis
   [NOTE: PUBP 4113 is a prerequisite]
5. PUBP 6116 Microeconomics in Policy Analysis
6. PUBP 6118 Public Finance and Policy
7. PUBP 6210 Public Policy Analysis

Students must also take one of the following three courses:

1.	PUBP 6014	Organization Theory
2.	PUBP 6017	Public Management
3.	PUBP 6018	Policy Implementation

Students are required to develop, in consultation with their advisor, a six-hour concentration in an area or specialty relevant to public policy and management (e.g. environmental policy, science and technology policy, urban policy, economic development, information and communications policy, policy evaluation, public management).

Contact the B.S. PP program director for further information.

Law, Science, and Technology Program/Minor/Certificate

Established in 1998
Location: 107 D. M. Smith Building,
685 Cherry Street
Telephone: 404.894.6822
Fax: 404.385.0504
Web site: **www.spp.gatech.edu**

GENERAL INFORMATION

The School of Public Policy is home to Georgia Tech's Law, Science, and Technology/Pre-Law Program. This program offers a wide range of curricular opportunities as well as pre-law advising and support services for students considering law school and careers in law.

The program introduces students to selected areas of law that they are likely to study in law school. Students will begin to develop the skills that they will need to succeed in law school and in law practice. Some of the courses are taught by full-time faculty, while others are taught by attorneys from the Atlanta area, thereby exposing students to academic and practical perspectives on the practice of law.

The program welcomes students from every college and major. Students majoring in the sciences and engineering may be surprised to learn that their undergraduate background gives them a strong start toward specializations such as intellectual property law, products liability law, and construction law. The pre-law program can supplement a student's scientific or engineering background by developing the reading and writing skills that are fundamental to a successful legal career.

law, SCIENCE and TECHNOLOGY minors and pre-law certificates

Students working toward the minor or certificate must take one of the following core menu courses:

1. PUBP 3000 American Constitutional Issues
2. PUBP 3016 Judicial Process
3. PUBP 3610 Pre-Law Seminar
4. PUBP 4609 Legal Practice

Students working toward the certificate must take a total of twelve semester hours of applicable credit (nine semester hours at the 3000 level or above). Students working toward the minor must take a total of eighteen semester hours of applicable credit (fifteen semester hours at the 3000 level or above). For additional requirements or any other information, see the pre-law section of the Web site **www.spp.gatech.edu**; or contact the pre-law program director (contact information listed at Web site).

Minors and Certificates

The School of Public Policy offers undergraduate certificates and minors in five areas:

1. **Public Policy:** featuring courses on government and business decision processes, especially those involving science, technology, environment, or regional development.
2. **Law, Science, and Technology/Pre-Law:** preparing students for decisions about law school and careers in law through selection of a course from a core menu of four courses, plus selected courses in computer science, economics, history, international affairs, management, philosophy, and public policy.
3. **Philosophy, Science, and Technology:** providing broad perspectives and critical thinking about science and technology, emphasizing values and ethics.
4. **Political Science:** focusing on how government works, from the local to the national level.
5. **Women, Science, and Technology:** Links science and technology issues with those issues associated with the study of women and gender in society.

The certificates enrich any Georgia Tech degree and particularly serve students who are planning graduate studies in law, medicine, business, or the social sciences. All the certificates require a minimum of twelve semester hours of concentration.

Minors are for students wishing a concentration outside their major that provides greater depth than the certificate programs. Each minor requires a minimum of eighteen hours of credit (twelve semester hours at the 3000 level or higher; however, the law, science, and technology minor requires fifteen semester hours at the 3000 level or higher) with a *C* or better in each. Completion of a minor will be recognized on the student's final university transcript.

Students interested in planning a certificate or minor program in one of the five areas should contact the School of Public Policy for further information. A faculty advisor assists each student in planning a program of study to meet his or her needs and interests.

Faculty

Director and Assistant Professor

Robert Kirkman

PST Philosophy Faculty

Professors

Nancy J. Nersessian, Bryan G. Norton

Associate Professors

Roberta M. Berry, Michael Hoffman

PST Ethics Program Faculty

Professor

Susan Cozzens.

Associate Professors

Alice Bullard, Molly Cochran, Carol Colatrella, Hans Klein, Juan Rogers, Stephen Usselman

Philosophy, Science, and Technology

Established in 1990
Location: 107 D. M. Smith Building,
685 Cherry Street
Telephone: 404.894.6822
Fax: 404.385.0504
Web site: **www.spp.gatech.edu**

General Information

Georgia Tech offers undergraduate courses in philosophy, with a particular focus on science and technology. The courses are intended to enable Georgia Tech students to reflect on the nature of their disciplines and to focus their understanding on the context of their lives as professionals and citizens. Philosophy, Science, and Technology (PST) courses can be used to satisfy the distribution requirement in humanities.

Certificate and minor programs in philosophy are available for students who wish to concentrate coursework in this field. The certificate program consists of twelve hours of coursework, and the minor consists of eighteen hours of coursework. PST 3115 and PST 3127 are required for either the certificate or the minor.

Ethics Courses for Engineers

The PST program is responsible for offering a menu of courses that meet an ethics course requirement in several programs in the College of Engineering. PST courses recommended to fulfill the ethics requirement include the following:

1. PST 3105 Ethical Theories
2. PST 3109 Ethics for Technical Professions
3. PST 3127 Science, Technology, and Human Values
4. PST 4176 Environmental Ethics

Courses offered in other Ivan Allen College schools recommended to fulfill the ethics requirement include the following:

1. INTA 2030 Ethics and International Affairs
2. LCC 3318 Biomedicine and Culture
3. HTS 1028/EE 1823 Electrical Engineering in American Life

Students should consult the director concerning the schedule of course offerings.

The Program in Philosophy, Science, and Technology participates in the Program in Cognitive Science, which offers a Graduate Certificate in Cognitive Science, an Undergraduate Certificate in Cognitive Science, and an Undergraduate Minor in Cognitive Science. More information on these educational programs is available at **www-static.cc.gatech.edu/cogsci/graduate_certificate.htm**.

Philosophy, Science, and Technology Minors and Certificates

Certificate and minor programs in philosophy are available for students who wish to concentrate coursework in this field. The certificate program consists of twelve hours of coursework, and the minor consists of eighteen hours of coursework. PST 3115 and PST 3127 are required for either the certificate or the minor.

Faculty

Professors

Barry Bozeman, John E. Endicott, John W. Garver, Robert Kennedy, William J. Long, Georgia Persons, Michael D. Salomone

Associate Professors

Richard P. Barke, Peter Brecke, Molly Cochran, John Havick, Gordon Kingsley, Hans Klein, Katja Weber, Brian Woodall

Assistant Professors

Kirk Bowman, Adam Stulberg, Fei-Ling Wang

Political Science

Established in 1990
Location: 107 D. M. Smith Building,
685 Cherry Street
Telephone: 404.894.6822
Fax: 404.385.0504
Web site: **www.spp.gatech.edu**

General Information

The discipline of political science is included within the Ivan Allen College within the School of Public Policy and the Sam Nunn School of International Affairs. Undergraduate courses in political science are intended to broaden students’ perceptions of political processes and governmental institutions. Many of these courses are taught under the PUBP or INTA prefix. Students should consult with the political science faculty concerning course offerings.

Political science courses may be used to satisfy the distribution requirement in social sciences, including the state-mandated requirement on constitutions of the United States and Georgia. This requirement may be satisfied by completion of POL 1101 or PUBP 3000, or INTA 1200, or HIST 2111 or 2112. The requirement also may be satisfied by examination.

Certificate and minor programs in political science, administered by the School of Public Policy, are available for students who wish to concentrate coursework in this discipline. The certificate in political science requires twelve hours of coursework (at least nine hours at the 3000 level), chosen in consultation with the faculty coordinator. The minor in political science requires eighteen hours of coursework (at least twelve hours at the 3000 level), also chosen with the advice of the faculty coordinator.

Political Science Minors and Certificates

Certificate and minor programs in political science, administered by the School of Public Policy, are available for students who wish to concentrate coursework in this discipline. The certificate in political science requires twelve hours of coursework (at least nine hours at the 3000 level), chosen in consultation with the faculty coordinator. The minor in political science requires eighteen hours of coursework (at least twelve hours at the 3000 level), also chosen with the advice of the faculty coordinator.

Faculty

Faculty Coordinator

Carol Colatrella, Professor, School of Literature, Communication, and Culture

Professors

Lawrence Foster, John Krige, Sue Rosser

Associate Professors

Michael Allen, Alice Bullard, Angela Dalle Vacche, Carol Senf

Assistant Professors

Deborah Grayson, Narin Hassan, Maren Klawiter, Cynthia Klestinec, Colleen Terrell, Lisa Yaszek

Women, Science, and Technology Program

The Women, Science, and Technology (WST) program does what no other gender studies program does: it links science and technology issues to those issues more traditionally associated with women's studies. The WST minor prepares Tech students women and men majoring in engineering, science, social sciences, and humanities to live and work in an increasingly diverse world. The minor helps students develop their understanding of the human side of science and engineering, involving not only gender issues, but inequalities of race and class as well.

WST courses reflect on the theoretical and practical dimensions of diversity. Students are encouraged to explore the values associated with scientific culture and to learn to synthesize knowledge across the disciplines, while viewing science and engineering as social and cultural forces that shape relations among women and men.

Each minor must take the two (2) of the following courses from two different Schools: HTS 3020: Gender and Technology, HTS 3021: Women in Science and Engineering, LCC 3304: Science, Technology, and Gender, PUBP 4212: Women and Public Policy, PUBP 4803: Gender, Science, and Technology.

Each minor also chooses four (4) courses from the following list OR from the list above. The four elective courses must be offered by at least two different Ivan Allen College schools:

History, Technology, and Society

1. HTS 2082-Technology and Science in the Industrial Age
2. HTS 2084-Technology and Society
3. HTS 3007-Sociology of Work, Industry, and Occupations
4. HTS 3016-Women and Gender in the United States
5. HTS 3017-Sociology of Gender
6. HTS 3082-Sociology of Science
7. HTS 3084-Culture and Technology
8. HTS 3086-Sociology of Medicine and Health

Literature, Communication, and Culture

1. LCC 2100 Introduction to Science, Technology, and Culture
2. LCC 2200 Introduction to Gender Studies
3. LCC 3219 Literature and Medicine
4. LCC 3225 Gender in the Disciplines [replaced LCC 3224 Gender Studies]
5. LCC 3302 Science, Technology, and Ideology

6. LCC 3306 Science, Technology, and Race
7. LCC 3308 Environmentalism and Ecocriticism
8. LCC 3316 Science, Technology, and Postmodernism
9. LCC 3318 Biomedicine and Culture

Public Policy

1. PUBP 2012-Foundations of Public Policy
2. PUBP 4410-Science, Technology, and Public Policy
3. PUBP 4416-Critical Issues in Science and Technology
4. PUBP 4200-Social Policy Issues

International Affairs:

1. INTA 4803/8803 Gender in International Relations

Modern Languages:

1. SPAN 3241 The Individual and the Family in Hispanic Literature
2. SPAN 3242 Society in Hispanic Literature

Economics:

1. ECON 2100 Economic Analysis and Policy Problems
2. ECON 2101 The Global Economy
3. ECON 2106 Principles of Microeconomics
4. **NOTE:** Students can receive credit for either ECON 2100 or ECON 2101, or for ECON 2105/2106. Students cannot receive credit for ECON 2100 and ECON 2101 or for ECON 2100 and ECON 2105/2106 or for ECON 2101 and ECON 2105/2106.

With permission of the WST coordinators, students may substitute one independent study course or course from anothr GT unit. This may be chosen from special topics courses, seminars, and other courses that focus upon gender and social inequality or social issues of science and technology. Students may register and plan their courses of study for the WST minor by meeting with WST coordinators, Carol Colatrella (LCC) or Mary Frank Fox (PUBP). Students petition for the minor at the time they petition for their major degree. Minors are conferred upon graduation and appear on students' transcripts.

B.S./M.S. Public Policy (Five-year)

The School of Public Policy offers a five-year B.S./M.S. program for students enrolled in the undergraduate program who demonstrate an interest in and ability for additional education beyond the B.S. degree.

Students in the B.S./M.S. program will remain undergraduates until they meet requirements for the undergraduate degree, at which point they will receive their B.S. degree and be changed to graduate status. Students will be eligible to apply for the program after completion of thirty semester credit hours at Georgia Tech (i.e., at the end of their first year) and if they show appropriate progress in their degree program thereafter. Any student in good standing in the B.S. PP program is eligible to apply to the five-year program. Admissions decisions will be based on GPA and judgements of the faculty who have served as advisors or instructors. Continuation in the program will require the student to maintain a GPA of 3.0 or higher in public policy courses. The program will not penalize students who opt out after the bachelor's degree. Students participating in this program will be eligible for the six semester credit-hour **Graduate Course Option**.

The graduate-level credits required in the Five-Year B.S./M.S. Program are usually as follows:

1. Core-twenty-two hours
2. Electives-twelve hours
3. Research paper-three hours

Total 37 hours

Specific Requirements for the Five-Year Program include:

1. PUBP 6001 Introduction to Public Policy (1 semester hour, all other courses are 3 semester hours)
2. PUBP 6010 Ethics, Epistemology, and Public Policy
3. PUBP 6112 Research Design in Policy Science [NOTE: this course should be taken as an undergraduate instead of PUBP 3110 and will count for both programs]
4. PUBP 6114 Applied Policy Methods and Data Analysis
   [NOTE: PUBP 4113 is a prerequisite]
5. PUBP 6116 Microeconomics in Policy Analysis
6. PUBP 6118 Public Finance and Policy
7. PUBP 6210 Public Policy Analysis

Students must also take one of the following three courses:

1. PUBP 6014 Organization Theory
2. PUBP 6017 Public Management
3. PUBP 6018 Policy Implementation

Students are required to develop, in consultation with their advisor, a six-hour concentration in an area or specialty relevant to public policy and management (e.g. environmental policy, science and technology policy, urban policy, economic development, information and communications policy, policy evaluation, public management).

Contact the B.S. PP program director for further information.

Master of Science in Public Policy

The Master of Science in Public Policy is designed for students with strong analytical backgrounds, such as those received in engineering, natural science, or an analytically oriented social science or humanities curriculum. Graduate studies in public policy focus on areas in which either the consequences of scientific and technological activity have significant public policy implications, or technical and scientific information is a significant input to the policy-making process. Current areas of specialization for the School include science and technology policy, environmental policy, information and telecommunication policy, and regional economic development policy.

The M.S. in Public Policy requires forty-six credit hours of study, including either: a) three hours devoted to producing a professional policy research paper or team research project or b) nine hours for a thesis. In general, it is expected that students planning to enter employment upon completing the degree will choose the paper or project option, while students planning to continue their graduate work will choose the thesis option.

The program requires a twenty-five-credit-hour core curriculum consisting of five substantive elements: policy and organizational analysis; ethics, philosophy, and public policy; economics and public finance; methods of analysis, including quantitative analysis and research design; and a capstone course in public policy analysis. In addition, there is a required one-credit-hour introductory graduate seminar in public policy. Based on prior coursework or a test-out exam, students may request up to six credit hours of exemptions from core courses. In individual cases, students may be required to take pre-core preparatory courses to be ready for graduate studies in particular methodological or analytical areas.

Core courses include:

1. PUBP 6001 Introduction to Public Policy
2. PUBP 6010 Ethics, Epistemology, and Public Policy
3. PUBP 6012 Fundamentals of Policy Processes
4. PUBP 6112 Research Design in Policy Science
5. PUBP 6114 Applied Policy Methods and Data Analysis
6. PUBP 6116 Microeconomics for Policy Analysis
7. PUBP 6118 Public Finance and Policy
8. PUBP 6201 Public Policy Analysis

Plus one of the following:

1. PUBP 6014 Organization Theory
2. PUBP 6017 Public Management
3. PUBP 6018 Policy Implementation and Administration

Students must achieve a grade of *B* or higher in all core courses. In addition to elective courses in the School of Public Policy, students may develop their own programs of study by taking courses in other Georgia Tech schools, including those in the Ivan Allen College and the Colleges of Architecture, Management, Sciences, and Engineering. A summer internship, work experience, or co-op assignment between the first and second years offers students insight into a research or professional setting related to their career interests.

Doctoral Program in Public Policy

The Ph.D. in Public Policy is a research-oriented program that prepares students for advanced professional work or for academic careers. Georgia Tech houses two Ph.D. programs in Public Policy, including one offered jointly with Georgia State University. The programs stress intellectual and methodological rigor, building upon the theory and applications of political and organizational analysis, research design, quantitative analysis, and economics.

All students must have completed the equivalent of the core courses for the Master of Science in Public Policy (see description of the M.S. degree) before they begin the doctoral core curriculum. The doctoral core curriculum consists of six three-credit-hour courses (seven in the joint program). These courses are designed to provide students with a theoretical and methodological foundation for conducting public policy research. Core courses include:

1. PUBP 8200 Advanced Research Methods I
2. PUBP 8205 Advanced Research Methods II
3. PUBP 8211 Microeconomic Theory and Applications
4. PUBP 8500 Research Seminar in Public Policy
5. PUBP 8510 Logic of Policy Inquiry
6. PUBP 8520 Scope and Theory of Public Policy

Additionally, for the joint program, students must take PUBP 8813, Advanced Topics in Analysis and Evaluation. Details on the requirements of the joint program, including equivalent courses at Georgia State University, are available on the Web site.

This core is supplemented with in-depth study of a substantive area of public policy. The Georgia Tech program focuses on science and technology policy, environmental policy, and urban and regional economic development policy. The joint program includes several additional majors, including health policy, policy and program evaluation, and public finance. Students may pursue concentrations with groups of courses already developed by the faculty or an individualized concentration with the written approval of the student's advisor and the Graduate Committee.

In the Georgia Tech program, the major area of concentration consists of four courses and has a capstone seminar at the Ph.D. level that majors are required to complete. The minor concentration is a three-course area of study that is taken outside the School of Public Policy.

Other requirements for the Ph.D. include completion of the one-year residency requirement; admission to candidacy for the degree through successful completion of qualifying exams and a dissertation proposal; and completion and successful defense of a doctoral dissertation (nine credit hours).

In summary, the credits required for the Ph.D. are usually as follows:

1. Core eighteen hours (twenty-one for the joint program)
2. Major twelve hours
3. Minor nine hours

4. Qualifiers three hours (written exam)
5. Colloquium three hours (oral exam: presentation of dissertation proposal)
6. Dissertation nine hours

Total 54 hours (57 for the joint program)

This total assumes that a student already has satisfied the core requirements of the master's degree (at most an additional twenty-five hours).

Financial Aid

Most Ph.D. students receive financial assistance, chiefly through sponsored research projects and teaching assistantships.

Department of Air Force Aerospace Studies

Established in 1946
Location: 151 6th Street O'Keefe Bldg. 2nd Floor
Telephone: 404.894.4175
Fax: 404.894.6857
Web site: **www.afrotc.gatech.edu**

General Information

The Air Force Reserve Officer Training Corps (AFROTC) is a three- or four-year educational program designed to give men and women the opportunity to become Air Force officers while completing a degree.

The curriculum is divided into two courses: a General Military course open to all freshmen and sophomores, and a Professional Officer course for qualified juniors, seniors, and graduate students. Students undecided about pursing a commission can participate in the General Military course without incurring a military obligation.

Successful completion of the General Military course, a minimum 2.5 GPA, and the appropriate physical and medical qualifications are prerequisites for enrollment in the Professional Officer course. Successful completion of both courses with the award of a bachelor's degree allows students to become commissioned second lieutenants in the Untied States Air Force.

Faculty

Commanding Officer and Professor (sophomores)

Col. Sheri Andino

Commandant of Cadets and Assistant Professor (seniors)

VACANT

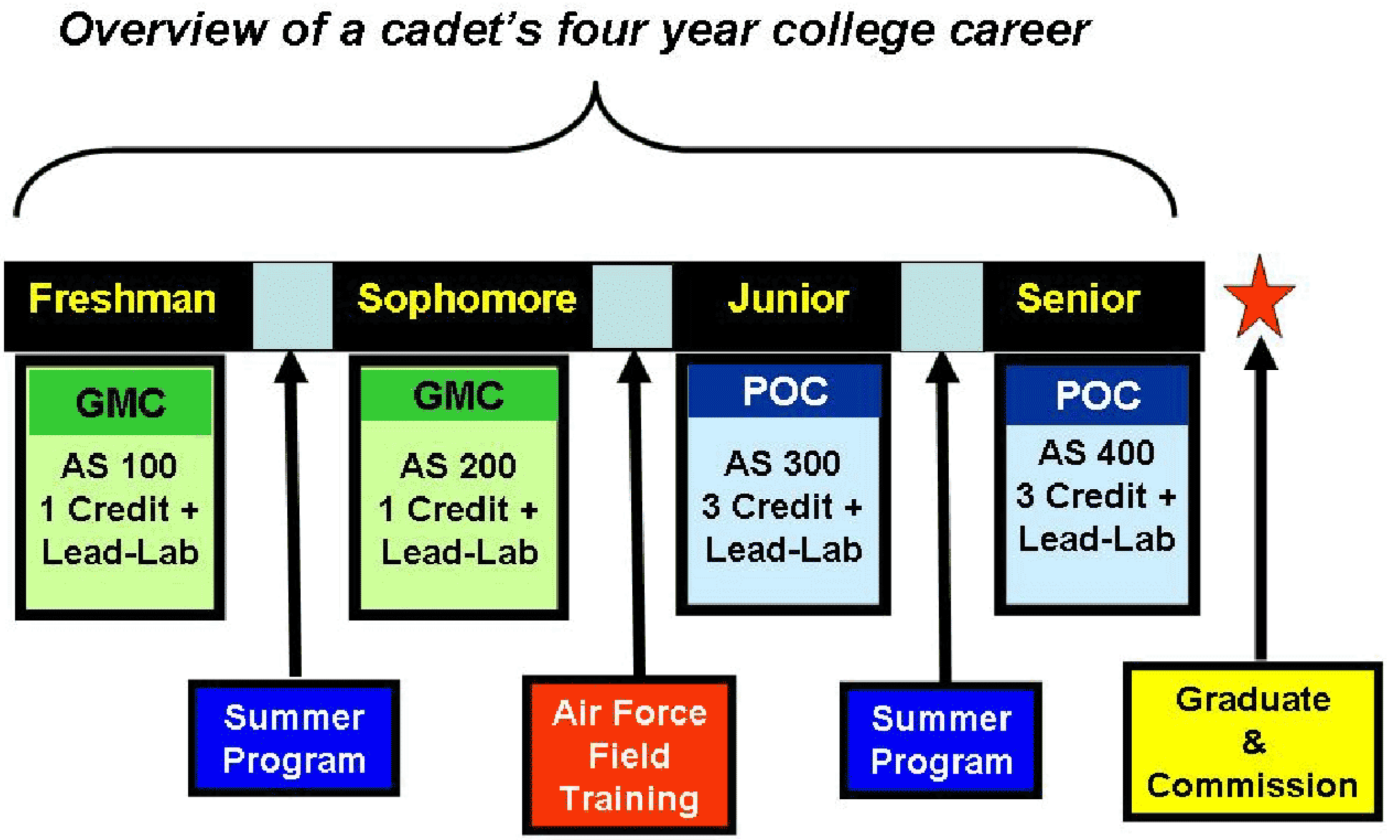
Unit Admission Officer and Assistant Professor (freshman)

Capt. Marcus Smith

Education Officer and Assistant Professor (juniors)

Capt. Pamela Woods

Program Overview



Students entering the program enroll in AFROTC courses in the same manner in which they register for other undergraduate courses. A formal application is not required. Students enrolled in the General Military Course (GMC) incur no military obligation unless they are on an AFROTC scholarship. Those students desiring to become commissioned officers in the Air Force must compete for entry into the Professional Officer course (POC), which is normally the last two years of college. In the summer between the sophomore and junior years, cadets attend a four- or six-week field training session conducted at an Air Force base.

AFROTC Scholarship Program

Air Force ROTC can help you with the high cost of getting your degree. As an Air Force ROTC cadet you are entitled to many benefits.

1. Up to $15,000 per academic year to cover tuition, lab, and incidental fees; $600 for textbooks; and $250-$400 a month tax-free allowance
2. Free Air Force uniforms and textbooks
3. Management training and opportunities to apply leadership principles
4. At most schools, academic credit for your Air Force ROTC classes
5. Travel on military aircraft on a space-available basis if you are on Air Force ROTC scholarship or in the Professional Officer course

In-College Scholarship Program (ICSP):

The Air Force ROTC In-College Scholarship Program (ICSP) is a highly competitive scholarship program aimed primarily at college freshmen and sophomores in ANY MAJOR. Detachment commanders nominate and rank/order cadets in their program using the ‘whole-person’ concept. All ICSP scholarships activate the following fall term.

Historically Black Colleges and Universities (HBCU):

Scholarships are available for any Clark Atlanta, Morehouse, or Spelman student. The objective of the HBCU scholarship program is to encourage outstanding HBCU students to enroll in the Air Force ROTC program. To compete for the scholarship you must: be a full-time student, be physically and medically qualified, have at least a 2.5 GPA, and meet all other eligibility criteria. Depending on the situation, HBCU scholarships can be activated in the same term.

Foreign Language Express Scholarship:

Foreign Language Express scholarships provide preapproved scholarships to individuals in certain areas of study for which the United States Air Force projects a critical need in a few years. Scholarships in these areas are guaranteed if students meet all minimum requirements. Air Force ROTC provides an outstanding opportunity for students to receive a three-, or two-year scholarship. Depending on the situation, Foreign Language scholarships can be activated in the same term. In order to receive an Express Scholarship you must be in one of the areas of study listed: Arabic, Chinese, Persian-Iranian/Persian-Afghan, Hindi, Indonesian, Japanese, Pashtu, Russian, Turkish, Urdu/Punjabi, Azerbaijani, Bengali, Cambodian, Hausa, Kazakh, Kurdish, Malay, Serbo-Croatian, Swahili, Thai, Uighur, Uzbek, or Vietnamese.

Nursing Scholarships:

Air Force ROTC offers a variety of scholarships for nursing students that cover most tuition, books, and lab fees. The goal of the Nursing scholarships is to allow nursing students to complete their degree debt-free, while acquiring valuable resource knowledge about the Air Force and become part of the Air Force's medical staff. Air Force nurses may enter in any number of different nursing fields including clinical nurse, operating room nurse, flight nurse or nurse anesthetist. Depending on the situation, Nursing scholarships can be activated in the same term.

Pre-Health Professions and Armed Forces Health Professions Program:

A Pre-Health Professions Program designation is offered to encourage students to earn commissions through Air Force ROTC and continue their education in medical or osteopathic school. You must apply before the end of your sophomore year. The Armed Forces Health Professions Scholarship Program provides up to four years of medical school and it covers tuition and fees, textbooks, and it pays the student a taxable monthly allowance of $938. When you are accepted to your graduate-level health professions school, you will be granted the scholarship and transferred into the Air Force Medical Corps. Armed Forces Health Professions scholarship participants incur an additional active-duty service commitment.

AFROTC Cross Registration

Cross Registration is available to students from ARCHE participating schools. As a cross-town cadet you would participate in Air Force ROTC activities at Georgia Tech every Tuesday and Thursday. Scholarship opportunities are available to students from schools with Air Force Education Service Agreements. Stipends and other incentives are available to all students. Students graduating with a degree from their home institution will receive a commission in the United States Air Force. Contact the Detachment 165 Unit Admissions Officer at 404.894.4175 for more information. For more information on the Cross Registration process and ARCHE participating schools visit **www.atlantahighered.org**

General Military Course (GMC)

Courses are offered during fall and spring semesters with two credit hours awarded for each freshman and sophomore course and three credit hours for each junior and senior course. Four hours of basic ROTC courses may be applied as elective credits toward degree requirements at the school. Classes normally meet two hours a week. A one-hour leadership laboratory and participation in physical conditioning training are also required.

Students in the GMC do not incur military obligation unless they have received an ROTC scholarship.

AS 1000 Level Class Schedule for Freshman Year:

A survey course designed to introduce students to United States Air Force and Air Force Reserve Officer Training Corps
Fall
AS 1110 Foundations of the Air Force I - 1 hour
AS 1111 Leadership Lab - 1 hour
Spring
AS 1120 Foundations of the Air Force II - 1 hour
AS 1121 Leadership Lab - 1 hour

AS 2000 Level Class Schedule for Sophomore Year:

This course provides the students with a knowledge level of understanding for the general element and employment of air and space power.
Fall
AS 2210 Evolution of the Untied States Air and Space Power I - 1 hour
AS 2211 Leadership Lab - 1 hour
Spring
AS 2220 Evolution of the Untied States Air and Space Power I - 1 hour
AS 2221 Leadership Lab - 1 hour

Professional Officer Course (POC)

Courses are offered during fall and spring semesters with three credit hours for each junior and senior course. Classes normally meet three hours a week. A one-hour leadership laboratory and participation in physical conditioning training are also required.

AS 3000 Level Class Schedule for Junior Year:

A study of leadership, management fundamentals, professional knowledge, and communication skills required of an Air Force junior officer
Fall
AS 3310 Leadership Studies I - 3 hours
AS 3311 Leadership Lab - 1 hour
Spring
AS 3320 Leadership Studies II - 3 hours
AS 3321 Leadership Lab - 1 hour

AS 4000 Level Class Schedule for Senior Year:

Examines the national security process, Air Force structure, and doctrine with emphasis on developing top-level management skills required of an Air Force junior officer.
Fall
AS 4410 National Security Affairs - 3 hours
AS 4411 Leadership Lab - 1 hour
Spring
AS 4420 Preparation for Active Duty - 3 hours
AS 4421 Leadership Lab - 1 hour

Leadership Laboratory

Leadership Laboratory is a separate course requiring two hours per week throughout the cadet's enrollment in AFROTC. It involves a study of Air Force customs and courtesies, drill and ceremony, professional development opportunities in the Air Force, and the life and work of an Air Force junior officer. Students develop their leadership potential in a practical, supervised laboratory, which may include field trips to Air Force installations and presentations by Air Force personnel. Physical Training is a key part of officer development. Cadets are expected to PT twice per week.

AFROTC Scholarship Program

Field Training

Field Training is, in most cases, a cadet's first exposure to a working Air Force environment. The program is designed to develop military leadership and discipline, and to provide Air Force officer orientation and motivation. At the same time, the Air Force evaluates each cadet's potential as an officer. Field training includes Air Force professional development orientation, marksmanship training, junior officer training, physical fitness, and survival training.

Department of Military Science/ARMY ROTC

Established in 1917
620 Cherry Street
Location: Building 041,
Telephone: 404.894.4760 or 404.894.9938
Web site: **www.armyrotc.gatech.edu**

General Information

The purpose of the Army ROTC is to prepare students for commissioning as officers in the Active Army, Army Reserve, or Army National Guard. The overall program is designed to aid students in developing the abilities and attitudes that will make them academically successful and to develop well educated junior officers.

The curriculum is divided into two courses: a basic course which is open to all freshmen and sophomores, and an advanced course for qualified juniors, seniors, and graduate students. Students who are undecided about pursuing a commission have the option of participating in the basic course without incurring a military obligation. Successful completion of the basic course (or commensurate training), a minimum 2.0 cumulative grade point average, and the appropriate medical and physical qualifications are prerequisites for enrollment in the advanced course. Successful completion of both courses and the award of a bachelor's degree constitute the normal progression to gaining a commission as a second lieutenant. Courses are available to both men and women.

The overall Army ROTC curriculum prepares students to become effective leaders and managers in a variety of responsible and challenging commissioned officer fields, thus facilitating early middle-management career development and progression. A description of the course requirements and associated programs is provided on via the menu on the left.

Faculty

Professor and Head

LTC Alfred Scott

Assistant Professors

LTC John Jones, MAJ William Carlyle, MAJ Sharlene Pigg, CAPT Lawrence Camacho, CAPT Paul Gates

The Basic Course Curriculum

The Basic Course consists of a four-semester block of instruction taken during the freshman and sophomore years. Successful completion of all four semesters satisfies the military science requirements for progression to the Advanced Course. These courses provide a foundation in basic military subjects such as customs and traditions, history, leadership, and map reading. They round out a student's academic life, provide a challenge, foster confidence, and facilitate personal growth and development.

Courses are offered during fall and spring semesters with two credit hours awarded for each freshman and sophomore course and three credit hours for each junior and senior course. Four hours of basic ROTC courses may be applied as elective credits toward degree requirements at the school. Courses normally meet two hours a week. A one-hour leadership laboratory and participation in physical conditioning training are also required for contracted cadets.

Students in the Basic Course do not incur military obligation unless they have received an ROTC scholarship. Scholarship cadets are required to participate in a field training exercise twice per school year. They are issued uniforms and may participate in other ROTC-related events and training, such as Airborne School, Air Assault School, and Northern Warfare Training.

The Basic Course consists of the following:

First Year

Course	Title	Hours
MS 1021	Introduction to the Army	2
MS 1022	Introduction to Leadership	2

Second Year

Course	Title	Hours
MS 2021	Self/Team Development	2
MS 2022	Individual/Team Military Tactics	2

The Advanced Course Curriculum

The Advanced Course is designed to fully develop a cadet's leadership and management potential, physical stamina, and self-confidence, as well as those Army values required of an Army officer. The objective is to produce the highest caliber junior officers fully capable of discharging a wide spectrum of command and management responsibilities in the modern Army and in the business world.

The Advanced Course consists of four semesters of instruction normally taken during the junior and senior years. Successful completion of the four courses fulfills the military science academic requirements for award of an officer's commission. Each student must also participate in a regular physical conditioning program and successfully pass the Army Physical Fitness Test. All Advanced Course students must participate in field training exercises twice a school year. Twelve credit hours are earned, six of which may be applied as elective credits toward any degree at the Institute. Advanced Course students receive a subsistence allowance up to $500 a month. Service veterans and service academy cadets may qualify for direct entry into the Advanced Course. Certain Advanced Course students are eligible to participate in the Simultaneous Membership Program with the Army Reserve or Army National Guard. Students in this program affiliate with an Army unit as officer trainees.

Students enrolled in the Advanced Course are also required to complete a five-week Advanced Camp at Fort Lewis, Washington, to become eligible for commissioning. Attendance at Advanced Camp normally occurs during the summer between the junior and senior years. Students may also participate in additional voluntary training, such as Airborne School or Cadet Troop Leader Training. In addition to completing the military science academic requirements of both the Basic and Advanced Courses, the student must complete at least one undergraduate course from each of five designated fields of study:

1. Written Communications: Select any course offered by the Institute in English composition or creative writing.
2. Human Behavior: Select any course offered by the Institute in psychology, sociology, anthropology, or ethics.
3. Military History/National Security Studies: Select INTA 3520, INTA 3510, or another similar course approved by the Professor of Military Science.
4. Computer Literacy: Select any course offered by the College of Computing except CS 1000 (Information and Society).
5. Mathematics Reasoning: Select any course offered by the School of Mathematics.

Students who successfully complete the Army ROTC curriculum and earn a bachelor's degree can be commissioned as second lieutenants. Subsequent military service may be on active duty or with the Army Reserve or Army National Guard. The following courses constitute the Advanced Course:

Third Year

Course	Title	Hours
MS 3011	Leading Small Organizations I	3
MS 3012	Leading Small Organizations II	3

FOURTH YEAR

Course	Title	Hours
MS 4011	Leadership Challenges and Goal Setting	3
MS 4012	Transition to Lieutenant	3
MS 4901	Special Problems (restricted)	3

Leadership Training Course (LTC)

Those academically qualified students who are unable to fulfill the requirements of the Basic Course during their freshman and sophomore years may qualify for admission to the Advanced Course by successfully completing the Leadership Training Course (LTC). This option is primarily designed to meet the needs of transfer students, those completing the sophomore year, and others, including graduate students, who have four semesters remaining at the Institute. This option provides a two-year program in lieu of the standard four-year curriculum.

The LTC option consists of a four-week training period conducted at Fort Knox, Kentucky, during the summer months. During each summer, various cycles will be available to meet student needs. Students choosing this option are required to submit a formal application and pass a physical examination.

Students selected to attend the LTC training program will receive approximately $800 in addition to travel expenses to and from the LTC. Uniforms, housing, medical care, and meals are furnished by the government during the training. Interested students should contact the Military Science Department.

Scholarship Programs

Each year, the Army offers a variety of full scholarship programs to those young men and women who have demonstrated outstanding academic scholarship and leadership potential. Four-, three-, and two-year scholarships are available to qualified students. Scholarships are competitive and awarded based on the student's merit. The Professor of Military Science receives an allocation of scholarships each year. Scholarships provide full tuition/fees or room/board to both resident and out-of-state students, $900 allowance for textbooks and supplies, and a $300 to $500-a-month tax-free stipend. Scholarship students serve either on active duty, in the Army reserves, or Army National Guard.

Options

Students who wish to obtain a commission as an officer but do not want to serve on active duty may request a Guaranteed Reserve Forces Duty (GRFD) scholarship. Reserve Forces Duty scholarships are available, but are limited in number. Affiliation with an Army Reserve or Army National Guard unit is required to participate in either the scholarship or nonscholarship program. In this program, students are guaranteed in writing that they will not be placed on active duty and can fulfill their entire commitment in the Army Reserve or Army National Guard.

Student Advisory Services

Faculty members are available throughout the academic year and during each summer orientation session in the Department of Military Science for academic counseling, schedule planning, and career guidance. Students and their parents are encouraged to seek advice on the overall Army ROTC program, scholarship opportunities, and officer career development. Appointments may be made in person, by calling 404.894.4760/9938, or by e-mail via the ROTC home page, www.armyrotc.gatech.edu. Students should also check the homepage for the latest updates on course requirements and other important information.

Department of Naval Science

Established in 1926
Bobby Dodd Way
Location: Naval Armory,
Telephone: 404.894.4771 or 404.894.4772
Fax: 404.894.6029
Web site: **http://nrotc.gatech.edu**

General Information

The NROTC program offers students the opportunity to qualify for service as commissioned officers in the United States Navy or Marine Corps. The program's objectives are to provide students with an understanding of the basic concepts and principles of naval science, associated professional knowledge, and the requirements for national security. NROTC students receive an educational background that allows them to later undertake advanced education in the naval service.

The NROTC program is an officer accession program for the unrestricted line communities (Surface Warfare, Submarines, Aviation, Marine Corps). Upon graduation, the student is commissioned as an officer in the Naval or Marine Corps. Naval officers are ordered to active duty in submarines, surface combatants, or the aviation community. Marines undergo training leading to a variety of specialties. NROTC students are enrolled in one of the following three categories: three-year or four-year scholarship students, college programmers, or two-year scholarship students.

Faculty

Commanding Officer and Professor

Capt. Wayne Radloff

Assistant Professor

Lt. Col. Dwayne Whiteside

Marine Instructor

Major Ronald Peterson

Assistant Marine Instructor

Gy. Sgt. Hobbs

Senior Instructor

Lt. Brian Wheaton

Sophomore/Junior Instructor

Lt. Damien Lipke

Freshman Instructor

Lt. Ivan Garvin

Scholarship Students

Four-year and three-year scholarship students are selected through nationwide competition. Selection criteria include SAT or ACT scores, high school academic performance, and extracurricular activities. The selection process is administered by the chief of Naval Education and Training; however, the NROTC unit will provide guidance and information to applicants. An online application is available at **https://www.nrotc.navy.mil**.

The NROTC scholarship pays for tuition (and applicable fees) and textbooks. The Navy also provides uniforms and a $250-$400 per month subsistence allowance. The Naval Science Department conducts an orientation program (INFORM) for all new NROTC scholarship students during the week prior to the start of the fall semester. Scholarship students must complete the naval science curriculum and also participate in summer assignments from four to six weeks during the summers between academic years.

College Program Students

Non-scholarship students may seek a naval commission through the NROTC College Program. Interested students may apply at the Naval Armory on campus. The process includes a review of previous academic performance and interviews with staff personnel. Students accepted into the College Program must complete the naval science curriculum and take a summer assignment between the junior and senior years.

The Navy provides uniforms and naval science texts. Students who enter advanced standing in the junior year receive a subsistence allowance of $350-$400 per month. College program students are eligible to compete for scholarships ranging from one to three years. Selection criteria are based on academic performance at Georgia Tech and military performance as a College Program student. For information, contact the Naval Science Department at 404.894.4771.

Two-year Scholarship Program

Sophomores may apply and compete nationally for two-year NROTC scholarships. Those selected attend six weeks of training in Newport, Rhode Island, during the summer between the sophomore and junior years. Upon successful completion, the student joins the NROTC program on an equal footing with other students in the junior year naval science classes. Interested students should contact the Naval Science Department.

Curriculum

Required Naval Science Classes:

1. NS 1321 - Introduction to Naval Science
2. NS 1323 - Naval Maritime History
3. NS 2321 - Naval Leadership and Management
4. NS 2323 - Navigation
5. NS 3323 - Evolution of Warfare *Marine only*
6. NS 3324 - Marine Weapons and Tactics *Marine only*
7. NS 3325 - Naval Weapon Systems
8. NS 3326 - Naval Engineering Systems
9. NS 4320 - Naval Operations and Seamanship
10. NS 4322 - Naval Leadership and Ethics
11. NS 4323 - Amphibious Warfare *Marine only*

In addition to the required naval science courses, all Navy Option Scholarship students must take calculus (MATH 1501-2 or MATH 1511-2), physics (PHYS 2111-2 or 2231-3 series), one term of INTA (contact NROTC unit for required class), and one term of a cultures studies class (contact NROTC unit for required class).

Marine Option students must only take the previously listed international affairs and cultural studies courses or their equivalent as approved by the professor of naval science. Any additional requirements are based on whether the student is in a technical or nontechnical major, a Navy Option or Marine Option student, and a scholarship or nonscholarship recipient. Each student must obtain from the NROTC Department a complete description of program requirements since the above statement is only a general outline. Students may apply a maximum of four hours in basic ROTC courses and six hours in advanced ROTC courses toward meeting the free elective requirements for any degree.

College of Sciences - General Information

Dean

Gary B. Schuster

Associate Deans

E. Kent Barefield, Evans M. Harrell II

Director of Development

Philip Bonfiglio

Director of Finance

David L. Moore

Director of Facilities

Gerald E. O’Brien

General Information

The College of Sciences comprises seven schools - Applied Physiology, Biology, Chemistry and Biochemistry, Earth and Atmospheric Sciences, Mathematics, Physics, and Psychology. All schools except Applied Physiology offer B.S., M.S., and Ph.D. degree programs. Applied Physiology offers an M.S. degree in prosthetics and orthotics. The Center for Education Integrating Science, Mathematics, and Computing (CEISMC), which works with K-12 schools and teachers in the state of Georgia to improve science and mathematics education, is also a unit of the College of Sciences.

The College of Sciences provides the courses in mathematics and the natural sciences that are necessary for all Tech undergraduates to acquire skills and basic principles for their majors. A detailed description of each degree program in the College of Sciences is located under the appropriate school heading, as are descriptions of the courses offered. College of Sciences’ courses required or recommended by degree programs in the other five colleges at Georgia Tech are listed under the curricula for those degrees.

College of Sciences - Degrees and Programs Offered

College of Sciences

SCHOOL OF APPLIED PHYSIOLOGY

Master of Science in Prosthetics and Orthotics

Doctor of Philosophy in Applied Physiology

SCHOOL OF BIOLOGY

Bachelor of Science in Applied Biology

Bachelor of Science in Applied Biology - Business Option

Bachelor of Science in Applied Biology - Int'l Designator

Bachelor of Science in Applied Biology - Research Option

Master of Science in Applied Biology

Master of Science in Bioinformatics

Doctor of Philosophy with a Major in Applied Biology

Doctor of Philosophy with a Major in Bioinformatics

SCHOOL OF CHEMISTRY & BIOCHEMISTRY

Bachelor of Science in Chemistry

Bachelor of Science in Chemistry - Biochemistry Option

Bachelor of Science in Chemistry - Business Option

Bachelor of Science in Chemistry - Materials Option

Bachelor of Science in Chemistry - Polymer Option

Master of Science in Chemistry

Master of Science in Paper Science and Engineering

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Chemistry

Doctor of Philosophy with a Major in Paper Science and Engineering

SCHOOL OF EARTH & ATMOSPHERIC SCIENCES

Bachelor of Science in Earth and Atmospheric Science

Bachelor of Science in Earth and Atmospheric Sciences - Research Option

B.S./M.S.E.A.S. (Five-year)

Master of Science in Earth and Atmospheric Science

Master of Science with a Major in Earth and Atmospheric Science

Doctor of Philosophy with a Major in Earth and Atmospheric Sciences

SCHOOL OF MATHEMATICS

Bachelor of Science in Applied Mathematics

Bachelor of Science in Applied Mathematics - Business Option

Bachelor of Science in Discrete Mathematics

Bachelor of Science in Discrete Mathematics - Business Option

Master of Science in Mathematics

Master of Science in Quantitative and Computational Finance

Master of Science in Statistics

Doctor of Philosophy with a Major in Algorithms, Combinatorics, Optimization

Doctor of Philosophy with a Major in Bioinformatics

Doctor of Philosophy with a Major in Mathematics

SCHOOL OF PHYSICS

Bachelor of Science in Applied Physics

Bachelor of Science in Physics

Master of Science in Applied Physics

Master of Science in Physics

Doctor of Philosophy with a Major in Physics

SCHOOL OF PSYCHOLOGY

Bachelor of Science in Applied Psychology

Bachelor of Science in Applied Psychology - Research Option

Bachelor of Science in Applied Psychology - Business Option

Master of Science in Human-Computer Interaction

Doctor of Philosophy with a Major in Psychology - Engineering Psychology

Doctor of Philosophy with a Major in Psychology - Experimental Psychology

Doctor of Philosophy with a Major in Psychology - Industrial/Organizational Psychology

Minors and Certificates

The College of Sciences currently offers minors in biology, earth and atmospheric sciences, and mathematics, along with a number of certificate programs that provide similar opportunities for students to develop their expertise or acquire skills or information in specific areas in addition to their major area. Students who satisfactorily complete a certificate program will receive a certificate of recognition from the department that offers the program. Certificate programs available in the College of Sciences are as follows: (Certificate programs offered by the other colleges at Georgia Tech are also available to students in the College of Sciences.)

Certificate Programs in the College of Sciences

Applied Physiology

Applied Physiology

Biology

Environmental Biology

Microbiology

Molecular Biology/Genetics

Chemistry and Biochemistry

Biochemistry/Organic Chemistry

Chemical Analysis

Physical/Inorganic Chemistry

Earth and Atmospheric Sciences

Geochemistry

Geophysics

Physics

Applied Optics

Atomic, Molecular, and Chemical Physics

Computer-based Instrumentation

Psychology

Biopsychology

Cognitive Psychology

Engineering Psychology

Experimental Psychology v

Industrial/Organizational Psychology

Social/Personality Psychology

School of Applied Physiology - General Information

Established in 2002 (formerly Department of Health and Performance Sciences,
established 1990; and Physical Education and Recreation, established 1942)
Location: Weber/SST Building,
Centennial Research Building
Telephone: 404.894.3986
Fax: 404.894.9982
Web site: **www.ap.gatech.edu**

General Information

Faculty in the School of Applied Physiology are focused on understanding the science of movement, the physiological basis of movement control, and on instruction related to the importance of maintaining sound physiological systems. Our approach to these tasks involves every biological level utilizing both basic and applied sciences. For example, attempts to understand how molecules transmit signals in skeletal muscle have a foundation in basic molecular biology and ultimately relate to the applied science of movement control. Faculty interests range from the behavioral (Sparling) to the systemic (Chang, Gregor, Sprigle, Millard-Stafford, Prilutsky) to the molecular levels (Balog, Burkholder, McCarty). At the undergraduate level, the School instructs all Georgia Tech students in their health and wellness requirement and offers a Certificate in Applied Physiology addressing students' desire for basic medical science education. At the graduate level, the School administers a focused Master's Program in Prosthetics and Orthotics. The School offers cutting-edge instruction coupled with sound clinical training and a foundation in movement science. The certified MSPO program graduated its first class in 2004. A graduate program offering a Ph.D. in Applied Physiology, approved by the Board of Regents, entered its first class in 2005. The School is unique to the Georgia Tech community but founded in interdisciplinary teaching and research fundamental to the mission of the Institute.

School of Applied Physiology - General Information

The Master of Science Degree Program in Prosthetics and Orthotics is accredited by the Commission on Accreditation of Allied Health Education Programs (**www.caahep.org**) upon the recommendation of the National Commission of Orthotic and Prosthetic Education (NCOPE).

Commission on Accreditation of Allied Health Education Programs
35 East Wicker Drive, Suite 1970
Chicago, IL 60601-2208
312-553-9355

Faculty

Chair and Professor

Robert J. Gregor

Associate Chair and Professor

Mindy Millard-Stafford

Professor

Phil Sparling

Associate Professor

Thomas Burkholder, Stephen Sprigle, Boris Prilutsky

Adjunct Associate Professor

Nael McCarty

Assistant Professors

Edward Balog, Young Hui Chang

Research Associate II

Linda Rosskopf

Academic Professional

Teresa Snow

Director MSPO

Chris Hovorka

Certificate Program in Applied Physiology

The School of Applied Physiology offers a multidisciplinary certificate program in applied physiology. It is designed for students from any major who wish to broaden or supplement their educational experiences and career opportunities in areas related to the health sciences, human biology, bioengineering, or biomedical engineering. The certificate program is based in human anatomy, physiology, and human movement sciences, but allows students the flexibility to elect courses in specific areas of interest. Specific information regarding the certificate may be obtained by contacting the School Office, 113 Weber/SST building.

The Health Sciences Requirement

All Georgia Tech students must satisfactorily complete the health and wellness requirement. The requirement consists of one two-hour course, HPS 1040, Health Concepts and Strategies. The School may grant credit to transfer students for comparable courses completed at other institutions. Students who have completed their health and wellness requirement are encouraged to elect additional courses of interest in health and movement science.

Other Applied Physiology (APPH) courses may be used as free electives or technical electives, if approved by the major school. Individual schools may allow up to three hours of courses to be counted toward degree requirements. Students should check the curricula of their individual schools to determine the number of hours they may apply toward the degree.

Master of Science in Prosthetics and Orthotics

The School of Applied Physiology offers a graduate program of study leading to a Master of Science Degree in Prosthetics and Orthotics (M.S.P.O.). Similar to a medical education model, the Georgia Tech M.S.P.O. education program is founded upon organized problem solving and investigative processes within an interdisciplinary environment. The curriculum includes traditional lecture and laboratory courses in basic sciences, medicine, engineering and prosthetics and orthotics. These courses are supplemented by unique modular supervised clinical practica in which students rotate through local hospitals, medical clinics, and prosthetics, and orthotics healthcare facilities under the guidance of a credentialed preceptor. A minimum of 500 contact hours will be required in accredited patient care facilities. These applied learning experiences occur in parallel to hands-on patient physical examination, treatment planning, and orthosis/prosthesis device design and fabrication. Students perform these tasks both off-site in affiliated medical and orthotic/prosthetic facilities as well as on-campus in Georgia Tech's clinical and fabrication facilities including on-campus research laboratories.

The M.S.P.O. education program curriculum consists of 48 credit hours over four semesters and covers four themes:

1. applied physiology and engineering
2. clinical medicine and prosthetics/orthotics
3. applied professional medicine and science
4. specialization area

Seventy percent of the class hours involve clinical applications, twenty percent involves didactic classes and five percent of the curriculum focuses on research, i.e. research seminars and a non-thesis research project. Students entering the program need an academic background that includes pre-requisite classes in anatomy (dissection), physiology, psychology, chemistry, two semesters of calculus and calculus-based physics.

Doctoral Program in Applied Physiology

The School of Applied Physiology offers a multidisciplinary and integrative Ph.D. program focused on the study of human movement and mobility, with research concentrations in biomechanics, neuromechanics, motor control and behavior, muscle cellular and systems physiology, and exercise physiology. Applied physiology refers to the study of normal and abnormal regulation and integration of mechanisms across all levels of biological organization (molecules to cells to organs to organ systems). The course of graduate study focuses on original, independent research culminating in the doctoral dissertation. All students are required to complete a faculty-approved set of required courses (15 hours), courses in an approved minor concentration (9 hours), six hours in a specialized focus area and twelve hours of dissertation research for a total of 42 hours.

School of Biology - General Information

Established in 1960
Location: Cherry Emerson Building
Telephone: 404.894.3700
Fax: 404.894.0519
Web site: **www.biology.gatech.edu/**

Programs of study offered by the School of Biology allow students to gain competence in several different areas of modern biological sciences. The curricula in all degree programs in the School encourage breadth by incorporating course selections from other schools and departments. The Institute, with its strengths in science, computing, mathematics, and engineering, provides unique opportunities for careers in the biological sciences and related areas.

The Bachelor of Science degree program consists of a combination of requirements and electives that ensure a balanced background in the fundamental areas of biology, while providing an opportunity to emphasize an area of interest in the junior and senior years. The School also offers graduate programs leading to the M.S. and Ph.D. degrees. The degree programs include coursework, faculty and student seminars, and independent research. Faculty members are actively engaged in research fields such as bioinformatics, biophysics, chemical ecology, microbiology, and molecular cell biology/genetics.

Faculty

Chair and Professor

John D. McDonald

Georgia Research Alliance Eminent Scholar in Structural Biology and Professor

Stephen Harvey

Georgia Research Alliance Eminent Scholar in Computational Systems Biology and Professor

Jeffery Skolnik

Harry and Linda Teasley Chair in Environmental Biology and Professor

Mark Hay

Smithgall Chair in Molecular Cell Biology and Professor

Alfred Merrill Jr.

Regents' Professor

Mark Borodovsky

Professors

Thomas J. DiChristina, Joseph Montoya, Jerry Pullman, Terry W. Snell, Roger Wartell, Jeannette Yen

Associate Professors

John Cairney, Yury Chernoff, Jung Choi, Paul Edmonds, Nael McCarty, Patricia Sobecky, Stephen Spiro, Marc Weissburg

Assistant Professors

Michael Goodisman, John Kirby, Julia Kubanek, Krill Lobachev, Marion Sewer, Todd Streelman, Soojin Yi, Lin Jiang

Adjunct Faculty

Leonid Bunimovich, Marc Frischer, Michael Keehan, Eugene Koonin, Frank Loeffler, Mindy Millard-Stafford, Valerie Paul, Peter Verity

Bachelor of Science in Applied Biology

The undergraduate curriculum for the Bachelor of Science in Biology degree is well suited to prepare students for employment in research and other technical positions; for graduate studies in the biological sciences; or for admission to medical, dental, veterinary, or other professional schools. The minimum number of total hours required for a bachelor's degree is 122. Most students also participate in faculty-directed research through undergraduate research courses, which may be used for technical elective credit. The School also offers a minor in biology, as well as certificate programs in environmental biology, microbiology, and molecular cell biology/genetics.

BACHELOR SCIENCE IN APPLIED BIOLOGY
2006-2007 DEGREE REQUIREMENTS
School Of Biology

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1310 GENERAL CHEMISTRY	4
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-FALL	HRS
BIOL 2344 GENETICS	3
BIOL 2400 MATHEMATICAL MODELS IN BIOLOGY	3
CHEM 2311 ORGANIC CHEMISTRY I	3
COMPUTING REQUIREMENT	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	HRS
BIOL 2335 GENERAL ECOLOGY	3
BIOL 2336 GENERAL ECOLOGY LAB *	1
BIOL 3600 INTRODUCTION TO EVOLUTION	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
BIOL 3340 CELL BIOLOGY	3
BIOL 3341 CELL BIOLOGY LAB *	1
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
BIOLOGY ELECTIVE(S)	9
FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
RESEARCH REQUIREMENT ** (Honors Thesis BIOL 4910, or 4590)	3
BIOLOGY ELECTIVE(S)	6
FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3

BIOL 4450 SENIOR SEMINAR	1
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
BIOLOGY ELECTIVE(S)	6
FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*BIOL 2345 (Genetics Lab) may substitute for either of these courses

**Students will be exempted from BIOL 4590 by fulfilling their research requirement with BIOL 4910, 3 credit hours of BIOL 4699 (Undergraduate Research), or 12 credit hours of BIOL 4698 (Research Assistantship, with approval of School of Biology undergraduate coordinator). BIOL 4910 and BIOL 4699 must be taken for a letter grade. Students using BIOL 4910, 4698, or 4699 as their research experience must enroll in Senior Seminar concurrently or the semester immediately following these courses.

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Technical electives:

Twenty-one hours must be earned in courses chosen from a list approved by the School of Biology (available in the School of Biology's main office). The list includes upper-level biology courses, up to four hours of Special Problems research experience, as well as courses in other schools. Courses must be taken for a letter grade.

Free electives:

The remaining eleven hours beyond courses required for humanities, social sciences, and physical education are free electives and may be taken on a pass/fail basis to the extent allowed under the catalog "**Rules and Regulations**" section.

Bachelor of Science in Applied Biology - International Plan

Georgia Tech has recently introduced an International Plan through the Office of International Education (**www.oie.gatech.edu/**). Successful completion of this plan earns students an international designation on their Georgia Tech degree. The primary purpose of the plan is to offer a challenging and coherent academic program for students to develop global competence within the context of a Biology degree. The requirements include: language proficiency equivalent to two years of college coursework (12 hrs), one course in international relations (3 hrs), global economy (3 hrs), focused study of a region (3 hrs), an integrative course synthesizing the international experience (3 hrs), and two semesters (minimum of twenty-six weeks) in residence abroad. Georgia Tech biology courses are taught in Australia/New Zealand (**www.oie.gatech.edu/sa/programs/**) and Costa Rica (**www.oie.gatech.edu/sa/programs/**) as part of the Study Abroad program. In addition, many biology courses are available through Georgia Tech partner universities abroad (**www.oie.gatech.edu/sa/programs/**). Some of these universities teach biology courses in English, such as Hong Kong University, Tokyo Technological University, University of Victoria (New Zealand), National University of Singapore, University of Strathclyde (Scotland), and Bilkent University (Turkey).

BACHELOR OF SCIENCE IN APPLIED BIOLOGY
INTERNATIONAL PLAN
2006-2007 DEGREE REQUIREMENTS
School Of Biology

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1310 GENERAL CHEMISTRY	4
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-FALL	**HRS**
BIOL 2344 GENETICS	3
BIOL 2400 MATHEMATICAL MODELS IN BIOLOGY	3
CHEM 2311 ORGANIC CHEMISTRY I	3
COMPUTING REQUIREMENT	3
LANGUAGE I	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	**HRS**
BIOL 2335 GENERAL ECOLOGY	3
BIOL 2336 GENERAL ECOLOGY LAB *	1
BIOL 3600 INTRODUCTION TO EVOLUTION	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
LANGUAGE II	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL * (ABROAD) *	**HRS**
BIOL 3340 CELL BIOLOGY	3
BIOL 3341 CELL BIOLOGY LAB *	1
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
LANGUAGE III	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING * (ABROAD) *	**HRS**
BIOLOGY ELECTIVE(S)	9
LANGUAGE IV	3
COUNTRY or REGIONAL ELECTIVE	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
RESEARCH REQUIREMENT ** (Honors Thesis BIOL 4910, or 4590)	3
BIOLOGY ELECTIVE(S)	6

FREE ELECTIVE(S)	2
INTERNATIONAL RELATIONS ELECTIVE	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
BIOL 4450 SENIOR SEMINAR	1
BIOLOGY ELECTIVE(S)	6
CULMINATING INT'L PLAN COURSE	3
GLOBAL ECONOMICS ELECTIVE	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*BIOL 2345 (Genetics Lab) may subsitute for either of these courses

**Students will be exempted from BIOL 4590 by fulfilling their research requirement with BIOL 4910, 3 credit hours of BIOL 4699 (Undergraduate Research), or 12 credit hours of BIOL 4698 (Research Assistantship, with approval of School of Biology undergraduate coordinator). BIOL 4910 and BIOL 4699 must be taken for a letter grade. Students using BIOL 4910, 4698, or 4699 as their research experience must enroll in Senior Seminar concurrently or the semester immediately following these courses.

Electives

International Relations-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
HTS 1031	Europe since the Renaissance		x	
HTS 3028	Ancient Greece: Gods, Heroes, and Ruins		x	
HTS 3029	Ancient Rome: from Greatness to Ruins		x	
HTS 3030	Medieval Europe: 350 to 1400		x	
HTS 2036	Revolutionary Europe: 1789-1914		x	
HTS 2037	Twentieth Century Europe: 1914 to Present		x	
HTS 2061	Traditional Asia and Its Legacy		x	
HTS 2062	Asia in the Modern World		x	
HTS 3012	Urban Sociology		x	
HTS 3032	Modern European Intellectual History		x	x
HTS 3038	The French Revolution		x	
HTS 3045	Nazi Germany and the Holocaust		x	
HTS 3064	Sociology of Development		x	
HTS 3066	Sociology of Politics and Society		x	
HTS 3067	Revolutionary Movements in the Modern World		x	
INTA 1110	Introduction to International Relations		x	
INTA 2030	Ethics in International Affairs		x	x
INTA 2040	Science, Technology, and International Affairs		x	
INTA 2100	Theoretical Approaches to Great Power Relations		x	
INTA 2210	Comparative Political, Philosophies, and Ideologies		x	
INTA 3031	Human Rights in a Technological World		x	
INTA 3102	The Problem of Proliferation		x	
INTA 3103	Challenge of Terrorism		x	
INTA 4050	International Affairs and Technology Policy		x	
INTA 4060	International Law		x	
INTA 4241	Third World Democratization		x	
PUBP 3600	Sustainability, Technology, and Policy		x	x
PUBP 4316	World Food, Population, and Environment		x	

Country or Regional-International Plan Electives

Course	Course Title	HUM	SS	ETHICS
ARCH 4113	Renaissance and Manner Architechture	x		
ARCH 4123	European Modernism [taught in Paris]			
ARCH 4125	French Architecture			
ARCH 4126	Paris Urban History		x	
ARCH 4128	Barcelona: Architecture	x		
COA 3115	Art and Architecture in Italy I	x		
COA 3116	Art and Architecture in Italy II	x		
FREN 3001	French Literature 1800-1900	x		
FREN 3002	French Literature 1900-Present	x		
FREN 3004	Drama Workshop	x		

FREN 3007	Survey of French Literature I	x		
FREN 3008	Survey of French Literature II	x		
FREN 3011	France Today I	x		
FREN 3012	France Today II	x		
FREN 3061	Advanced Business French I	x		
FREN 3062	Advanced Business French II	x		
FREN 3691	French LBAT I	x		
FREN 3692	French LBAT II	x		
FREN 3693	French LBAT III	x		
FREN 3694	LBAT French Seminar Abroad	x		
FREN 4061	French Science and Technology I	x		
FREN 4062	French Science and Technology II	x		
FREN 4101	Francophone Literature I	x		
FREN 4102	Francophone Literature II	x		
GRMN 3034	German Novella	x		
GRMN 3035	Dramatic and Lyrical Literature	x		
GRMN 3036	German Novel	x		
GRMN 3071	Intro-Business German I	x		
GRMN 3072	Intro-Business German II	x		
GRMN 3695	Structure, Communication and Correspondence	x		
GRMN 3696	Current Issues	x		
GRMN 3697	Communication and Culture	x		
GRMN 4023	Select Readings-German Literature	x		
GRMN 4024	German Film and Literature	x		
GRMN 4061	Advanced Business German I	x		
GRMN 4062	Advanced Business German II	x		
HTS 3031	European Labor History		x	
HTS 3033	Medieval England		x	
HTS 3035	Britain from 1815-1914		x	
HTS 3036	Britain since 1914		x	
HTS 3039	Modern France		x	
HTS 3041	Modern Spain		x	
HTS 3043	Modern Germany		x	
HTS 3061	Modern China		x	
HTS 3062	Modern Japan		x	
HTS 3063	Outposts of Empire: Comparative History of British Colonization		x	
ID 4203	French Society and Culture			
ID 4205	French Design and Culture			
INTA 1200	American Government in Comparative Perspective		x	
INTA 2220	Government and Politics of Western Europe		x	
INTA 2230	Government and Politics of Asia		x	
INTA 3120	European Security Issues		x	
INTA 3121	Foreign Policies of Russia and Eurasia		x	
INTA 3130	Foreign Policy of China		x	
INTA 3131	Pacific Security Issues		x	
INTA 3203	Comparative Politics		x	
INTA 3220	Government and Politics of Germany		x	
INTA 3221	Post-Soviet Government and Politics		x	
INTA 3230	Government and Politics of China		x	
INTA 3231	Government and Politics of Japan		x	
INTA 3240	Government and Politics of Africa		x	

INTA 3241	Latin-American Politics		x	
INTA 3321	Political Economy of European Integration		x	
INTA 3330	Political Economy of China		x	
INTA 3331	Political Economy of Japan		x	
INTA 4121	Seminar in Europe: European Security		x	
INTA 4230	Seminar in Europe: European Union		x	
INTA 4240	Argentine Politics		x	
INTA 4330	Chinese Economic Reform		x	
INTA 4331	Chinese Politics in Transition		x	
INTA 4332	Chinese Institutions and Policy Process		x	
INTA 4333	Korean Security Policy		x	
INTA 4340	Latin-American Regional Economic and Political Integration		x	
JAPN 3061	Technical Japanese I	x		
JAPN 3062	Technical Japanese II	x		
JAPN 3691	Technology and Scientific Japanese	x		
JAPN 3692	Business Japanese	x		
JAPN 3693	Japan Today	x		
LCC 2102	Science, Technology, and the Classical Tradition	x		
LCC 2104	Age-Scientific Discovery	x		
LCC 2106	Age of Scientific Revolution	x		
LCC 2218	Literary and Cultural Postmodernism	x		
LCC 3212	Women, Literature, and Culture	x		
LCC 3302	Science, Technology, and Ideology	x		
LCC 3316	Postcolonialism	x		
SPAN 3061	Business Spanish I	x		
SPAN 3062	Business Spanish II	x		
SPAN 3121	Cultural Hististory of Spain I	x		
SPAN 3122	Cultural Hististory of Spain II	x		
SPAN 3235	Latin America Today	x		
SPAN 3236	Business Communication/Correspondence	x		
SPAN 3241	Individual and Family in Hispanic Literature	x		
SPAN 3242	Society in Hispanic Literature	x		
SPAN 3691	Business Communication and Correspondence	x		
SPAN 3692	Business and Culture	x		
SPAN 3693	Science and Technology	x		
SPAN 3694	Seminar Abroad	x		
SPAN 4061	Science and Technology I	x		
SPAN 4062	Science and Technology II	x		
SPAN 4141	Literatures of Spain	x		
SPAN 4142	Survey Latin-American Literature	x		
SPAN 4151	The Short Story	x		
SPAN 4152	Latin-American Short Story	x		
SPAN 4154	Hispanic Modern Drama	x		
SPAN 4170	Spanish Applied Linguistics	x		
SPAN 4255	Hispanic Drama Workshop	x		

Global Economics-International Plan Electives

Course #	Course Title	HUM	SS	ETHICS
ECON 2101	The Global Economy		x	

ECON 4311	Strategic Economics for Global Enterprise		x	
ECON 4350	International Economics		x	
INTA 3301	International Political Economy		x	
INTA 3303	Political Economy of Development		x	
INTA 3304	International Trade and Production		x	
MGT 3660	International Business			

Bachelor of Science in Applied Biology - Research Option

This plan enables students to do 9 credit hours of supervised research with a biology faculty over 2-3 semesters. With faculty guidance, students write a brief proposal, perform independent, original research, and write a thesis about their work. The thesis is evaluated by two biology faculty and is presented in Senior Seminar. The first six credit hours of the research option are taken as BIOL 2699/4699 (research for credit) or BIOL 2698/4698 (research for pay). Students then take BIOL 4910, Honors Thesis (3 hrs) in their final semester and a two-hour writing course, LCC 4700 Undergraduate Thesis Writing. This writing course can be counted as a biology elective. A maximum of six credit hours of BIOL 2699/4699 and BIOL 4910 together can be counted as biology electives.

Completing this program gives students a "Research Option" designation on their transcripts.

BACHELOR OF SCIENCE IN APPLIED BIOLOGY
RESEARCH OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Biology

Suggested Schedule-*International Experience*

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1310 GENERAL CHEMISTRY	4
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-FALL	HRS
BIOL 2344 GENETICS	3
BIOL 2345 GENETICS LAB	1
BIOL 2400 MATHEMATICAL MODELS IN BIOLOGY	3
CHEM 2311 ORGANIC CHEMISTRY I	3
CS 1315 INTRODUCTION TO MEDIA COMPUTATION	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-SPRING	HRS
BIOL 2335 GENERAL ECOLOGY	3
BIOL 2336 GENERAL ECOLOGY LAB *	1
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2211 INTRODUCTORY PHYSICS I	4
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
BIOL 3340 CELL BIOLOGY	3
BIOL 3341 CELL BIOLOGY LAB *	1
BIOL 3600 INTRODUCTION TO EVOLUTION	3
FREE ELECTIVE(S)	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
BIOLOGY ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S)	3
BIOL 4699 UNDERGRADUATE RESEARCH	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
BIOL 4699 UNDERGRADUATE RESEARCH	3
BIOLOGY ELECTIVE(S)	6

FREE ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
BIOL 4450 SENIOR SEMINAR	1
BIOL 4910 HONORS RESEARCH THESIS	3
BIOLOGY ELECTIVE(S)	3
LCC 4700 UNDERGRADUATE THESIS WRITING	2
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** BIOL 2345 (Genetics Lab) may subsitute for either of these courses**

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Technical electives:

Twenty-one hours must be earned in courses chosen from a list approved by the School of Biology (available in the School of Biology's main office). The list includes upper-level biology courses, up to four hours of Special Problems research experience, as well as courses in other schools. Courses must be taken for a letter grade.

Free electives:

The remaining eleven hours beyond courses required for humanities, social sciences, and physical education are free electives and may be taken on a pass/fail basis to the extent allowed under the catalog "**Rules and Regulations**" section.

Bachelor of Science in Applied Biology - Business Option

The curriculum and suggested course schedule for the B.S. in Biology - Business Option are similar to the one described previously, with the following exceptions. Students take PSYC 2220 (Industrial/ Organizational Psychology) and ECON 2106 (Principles of Economics) in partial fulfillment of social science electives in the second and third years. In the third and/or fourth years, students must take MGT 3000 (Accounting) and MGT 3300 (Marketing). One additional management elective course is taken from a list that includes MGT 3062, 3150, 3076, 4191, and 4670. Biology majors in this option still select a project lab course or Honors Thesis, fifteen hours of Biology technical electives, and eight hours of free electives.

BACHELOR OF SCIENCE IN APPLIED BIOLOGY
BUSINESS OPTION
2006-2007 DEGREE REQUIREMENTS
School Of Biology
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1310 GENERAL CHEMISTRY	4
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-FALL	HRS
BIOL 2344 GENETICS	3
BIOL 2400 MATHEMATICAL MODELS IN BIOLOGY	3
CHEM 2311 ORGANIC CHEMISTRY I	3
COMPUTING REQUIREMENT	3
ECON 2106 PRINCIPLES OF ECONOMICS	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	HRS
BIOL 2335 GENERAL ECOLOGY	3
BIOL 2336 GENERAL ECOLOGY LAB *****	1
BIOL 3600 INTRODUCTION TO EVOLUTION	3
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
BIOL 3340 CELL BIOLOGY	3
BIOL 3341 CELL BIOLOGY LAB *****	1
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
WELLNESS	2
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
BIOLOGY ELECTIVE(S)	6
PSYC 2220 INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY	3
MGT 3000 ACCOUNTING FOR DECISION MAKING	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
RESEARCH REQUIREMENT ****** (Honors Thesis BIOL 4910, or 4590)	3
MGT 3300 MARKETING MANAGEMENT I	3

BIOLOGY ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
BIOL 4450 SENIOR SEMINAR	1
BIOLOGY ELECTIVE(S)	3
MGT ELECTIVE(S) (3062, 3150, 3076, 4191, 4670)	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*BIOL 2345 (Genetics Lab) may substitute for either of these courses

**Students will be exempted from BIOL 4590 by fulfilling their research requirement with BIOL 4910, 3 credit hours of BIOL 4699 (Undergraduate Research), or 12 credit hours of BIOL 4698 (Research Assistantship, with approval of School of Biology undergraduate coordinator). BIOL 4910 and BIOL 4699 must be taken for a letter grade. Students using BIOL 4910, 4698, or 4699 as their research experience must enroll in Senior Seminar concurrently or the semester immediately following these courses.

Electives

Computing Requirement

Students must complete either CS 1315, CS 1301, or a computer programming course approved as satisfying the general education requirements in computer literacy.

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Technical electives:

Twenty-one hours must be earned in courses chosen from a list approved by the School of Biology (available in the School of Biology's main office). The list includes upper-level biology courses, up to four hours of Special Problems research experience, as well as courses in other schools. Courses must be taken for a letter grade.

Free electives:

The remaining eleven hours beyond courses required for humanities, social sciences, and physical education are free electives and may be taken on a pass/fail basis to the extent allowed under the catalog "**Rules and Regulations**" section.

Minor and Certificate Programs

A minor in biology is available to all non-biology majors. The minor program provides a concentration in modern biological sciences and is especially valuable for students considering biomedical or environmental fields. The basic requirement is eighteen semester hours in biology, of which twelve hours must be at the 3000 level or higher. Further information is available from the School's undergraduate coordinator.

Certificate programs are available in Molecular Biology/Genetics, Environmental Biology, and Microbiology/Microbial Technology. A certificate requires a minimum of twelve hours in biology, at least nine of which must be at the 3000 level or higher. Courses required by name and number in a student's major program of study shall not be counted toward the certificate. Further information is available from the undergraduate coordinator in the School of Biology.

Graduate Programs

The School of Biology provides advanced training and research opportunities in various aspects of systems biology, ranging from molecular biology to ecology. Some current research areas include genomic sequence analysis, mechanisms of gene expression and DNA replication, evolutionary mechanisms, sphingolipids and metabolomics, signal transduction in plant and animal cells, environmental microbiology, bioremediation, sensory mechanisms in small animals, biological oceanography, ecosystem toxicology, and theoretical ecology.

Master of Science in Applied Biology

The requirements for the M.S. degree are a research thesis and thirty semester hours of coursework, which includes twelve credit hours in a major field. Twelve of the semester hours must be in formal graduate-level courses. The thesis must be defended in an oral examination. A non-thesis master's degree is available for students unable to carry out a thesis project; information on its requirements is available from the graduate coordinator in the School of Biology.

Master of Science in Bioinformatics

This is a three-semester focused professional master's degree program combining thirty-seven semester hours of courses in computer science, advanced molecular biology and biochemistry, statistics, and bioinformatics. A full-time summer internship in a corporate or academic bioinformatics group is an essential part of the curriculum. With input and assistance from corporate partners, the program is geared to training and placing graduates into lucrative jobs in the high-demand specialty field of bioinformatics. More information is available from the coordinator of the M.S. bioinformatics program.

Doctoral Program in Biology

Each Ph.D. student must acquire a thorough knowledge of a selected area of specialization, a broad knowledge of the field, and competence in the basic sciences. The main emphasis is on the successful completion of an original and independent research project. Credit hour requirements total forty, including twelve research credit hours and nine credit hours in an approved minor. Admission to candidacy requires passing a written comprehensive examination and an oral exam based on a written research proposal. Each Ph.D. student must write a comprehensive dissertation based on the student's scholarly research.

Additional information on the graduate program is available from the graduate coordinator in the School of Biology.

Doctoral Program in Bioinformatics

Participating Schools

College of Computing
School of Biomedical Engineering
School of Industrial and Sytems Engineering
School of Biology
School of Chemistry and Biochemistry
School of Mathematics

Objective of the program

The mission of the Georgia Tech Bioinformatics Ph.D. program is to educate and prepare graduate students to reach the forefront of leadership in the field of bioinformatics and computational biology, and to integrate research and education on the use of information technologies in biology and medicine. Thus, the program leading to a Ph.D. in Bioinformatics is an interdisciplinary program spanning a variety of academic departments at Georgia Tech.

Bioinformatics is a multidisciplinary field in which physical sciences, life sciences, computer science, and engineering are merged to solve both fundamental and applied problems in biology and medicine. The outcomes of bioinformatics and computational biology particularly include:

1. new and global perspectives into the organization and function of biological systems (fundamental biology);
2. new and novel targets for drug discovery and development; and
3. genetic/proteomic profiling for pharmaco-genomics or personalized medicine.

Thus, bioinformatics is emerging as a strategic discipline at the frontier of biology, biochemistry, biomedicine, bioengineering, computer science, and mathematics, impacting fundamental science, medicine, biotechnology, and society.

With its broad mission statement, this program at Georgia Tech has the following focus/strength areas:

1. Development of software tools, algorithms, and databases for gene identification, protein structural prediction, clustering analysis, and data mining
2. Application of bioinformatics to disease diagnosis, classification, prognosis, and treatment
3. Application of bioinformatics to fundamental biology and systems biology

There is an increasing demand for scientists with advanced training in bioinformatics. Professionals in this area should have a thorough knowledge of molecular biology, mathematics, and statistics, as well as computer science and engineering.

For more information visit **www.biology.gatech.edu/bioinformatics/bioinformatics_phd.htm**.

School of Chemistry and Biochemistry

Established in 1906
Location: Boggs Chemistry Building
Telephone: 404.894.4002
Fax: 404.894.7452
Web site: **www.chemistry.gatech.edu**

General Information

The School offers courses in chemistry required for various engineering and science curricula, as well as for students interested in medical school, for the degree Bachelor of Science in Biochemistry, Bachelor of Science in Chemistry, and for graduate work leading to the degrees Master of Science in Chemistry, Paper Science and Engineering, and Doctor of Philosophy in Chemistry, Bioinformatics, and Paper Science and Engineering.

Faculty

Chair and Professor

Thomas Orlando

Director of Graduate Studies and Professor

David M. Collard

Director of Undergraduate Studies and Professor

Lawrence Bottomley

Vice Provost and Dean of Graduate Studies and Regents' Professor

Charles L. Liotta

Dean of the College of Sciences, Vasser Woolley Chair, and Professor

Gary B. Schuster

Associate Dean and Professor

E. Kent Barefield

Julius Brown Chair and Professor

Mostafa A. El-Sayed

Eminent Scholar and Professor

Jiri (Art) Janata.

Regents' Professors

Sheldon W. May, James C. Powers.

Professors

Bridgette Barry, Jean-Luc Brédas, Uwe Bunz, Seth Marder, Joseph Perry, William S. Rees Jr., Laren M. Tolbert, Robert L. Whetten, Loren D. Williams, Angus Wilkinson, Paul H. Wine, Z. John Zhang.

Associate Professors

Robert M. Dickson, Christoph J. Fahrni, Rigoberto Hernandez, Nicholas V. Hud, L. Andrew Lyon, Boris Mizaikoff, Arthur Ragauskas, C. David Sherrill.

Assistant Professors

Donald Doyle, Facundo Fernandez, Nils Kroger, Julia Kubanek, Allen Orville, Marcus Weck.

Adjunct Faculty

Haskell W. Beckham, Andreas Bommarius, Charles A. Eckert, Steve Harvey, Gregory Huey, Christopher W. Jones, Alfred Merrill, Mohan Srinivasarao, Yadong Wang, Z.L.Wang, C.P. Wong.

Senior Academic Professionals

William J. Baron, Toby F. Block, Robert A. Braga.

Academic Professionals

George McKelvy, Mary Peek, J. Cameron Tyson.

Bachelor of Science in Chemistry

The Bachelor of Science in Chemistry degree program consists of a combination of requirements and electives that ensure a strong foundation in physical, inorganic, organic, and analytical chemistry while providing the flexibility to tailor the curriculum to satisfy specific interests or career goals. Biochemistry, Polymers, Materials, and Business Options are available for students who wish to include these fields as substantial components of their program. The judicious use of free electives also enables the student to achieve considerable knowledge of other disciplines at Georgia Tech, such as chemical and biomolecular engineering, materials engineering, computing, physics, mathematics, management, textiles, and biology. The chemistry curriculum options enable majors who are interested in medical, dental, or law school to meet admission requirements of these schools.

BACHELOR OF SCIENCE IN CHEMISTRY
2006 - 2007 DEGREE REQUIREMENTS
School Of Chemistry And Biochemistry

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1313 QUANTITATIVE ANALYSIS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
CHEM 2311 ORGANIC CHEMISTRY I	3
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
CHEM 3411 PHYSICAL CHEMISTRY I	3
CHEM 3111 INORGANIC CHEMISTRY II	3
CHEM 3380 SYNTHESIS LAB II	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHEM 3481 PHYSICAL CHEMISTRY LAB I	2
CHEM 3211 ANALYTICAL CHEMISTRY	5
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

FOURTH YEAR-FALL	HRS
CHEM 4681 ADVANCED CHEMISTRY LAB	5
CHEM 3511 or 4511 or 4512 (Biochemistry)	3
CHEM ELECTIVE(S)	3
TECHNICAL ELECTIVE(S)	3

TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
CHEM ELECTIVE(S)	3
TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

School of Chemistry and Biochemistry - Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Chemistry Electives

Chemistry electives include CHEM 3482 and all CHEM 4000-level courses except CHEM 4681, specifically required biochemistry courses, and CHEM 4699. With approval, graduate chemistry courses may also be used as chemistry electives.

Technical Electives

The technical elective requirement may be fulfilled by courses in science, engineering, and computing at the 3000 level or higher. A maximum of three hours toward the technical elective requirement may be chosen from CHEM 4699.

Bachelor of Science in Chemistry (Biochemistry Option)

Students who wish to prepare for careers that require proficiency in biochemistry may choose the Biochemistry Option under the Bachelor of Science in Chemistry curriculum. This option may be of interest to students who plan careers in medicine, teaching, or research, as well as those who wish to broaden their curriculum by including courses in this rapidly growing field.

BACHELOR OF SCIENCE IN CHEMISTRY
BIOCHEMISTRY OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Chemistry And Biochemistry

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1313 QUANTITATIVE ANALYSIS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
CHEM 2311 ORGANIC CHEMISTRY I	3
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
CHEM 3411 PHYSICAL CHEMISTRY I	3
CHEM 3111 INORGANIC CHEMISTRY II	3
CHEM 3380 SYNTHESIS LAB II	3
CHEM 4511 BIOCHEMISTRY I	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHEM 3481 PHYSICAL CHEMISTRY LAB I	2
CHEM 4512 BIOCHEMISTRY II	3
CHEM 4581 BIOCHEMISTRY LAB I	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-FALL	HRS
BIOCHEMISTRY ELECTIVE(S)	3
CHEM 4601 CHEMISTRY SEMINAR	2

FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
BIOCHEMISTRY ELECTIVE(S)	3
CHEM 3211 ANALYTICAL CHEMISTRY	5
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

School of Chemistry and Biochemistry - Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Biochemistry Electives

At least one of the biochemistry electives chosen must contain a laboratory component. The biochemistry electives are: CHEM 4521, 4582, and biology courses BIOL 3310, 3331, 3332, 3340/3341, 3380/3381, 4220, 4290, 4340, 4418, 4440, 4464, 4469, 4478, 4570, 4571.

Bachelor of Science in Chemistry (Business Option)

The Bachelor of Science in Chemistry degree program consists of a combination of requirements and electives that ensure a strong foundation in physical, inorganic, organic, and analytical chemistry while providing the flexibility to tailor the curriculum to satisfy specific interests or career goals. Biochemistry, Polymers, Materials, and Business Options are available for students who wish to include these fields as substantial components of their program. The judicious use of free electives also enables the student to achieve considerable knowledge of other disciplines at Georgia Tech, such as chemical and biomolecular engineering, materials engineering, computing, physics, mathematics, management, textiles, and biology. The chemistry curriculum options enable majors who are interested in medical, dental, or law school to meet admission requirements of these schools.

BACHELOR OF SCIENCE IN CHEMISTRY
BUSINESS OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Chemistry And Biochemistry

Suggested Schedule

FIRST YEAR-FALL	HRS
CHEM 1310 GENERAL CHEMISTRY	4
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1313 QUANTITATIVE ANALYSIS	3
MATH 1502 CALCULUS II	4
ENGL 1102 ENGLISH COMPOSITION II	3
BIOL 1510 BIOLOGICAL PRINCIPLES	4
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
CHEM 2311 ORGANIC CHEMISTRY I	3
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
PSYC 2220 INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
CHEM 3411 PHYSICAL CHEMISTRY I	3
CHEM 3111 INORGANIC CHEMISTRY II	3
CHEM 3380 SYNTHESIS LAB II	3
MGT 3000 ACCOUNTING FOR DECISION MAKING	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHEM 3481 PHYSICAL CHEMISTRY LAB I	2
CHEM 3211 ANALYTICAL CHEMISTRY	5
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
TOTAL SEMESTER HOURS =	**13**

FOURTH YEAR-FALL	HRS
CHEM 4681 ADVANCED CHEMISTRY LAB	5
CHEM 3511 or 4511 or 4512 (Biochemistry)	3
CHEM ELECTIVE(S)	3
MGT 3300 MARKETING MANAGEMENT I	3

TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
MGT ELECTIVE(S)	3
SOCIAL SCIECNE ELECTIVE(S)	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

School of Chemistry and Biochemistry - Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Chemistry Electives

Chemistry electives include CHEM 3482 and all CHEM 4000-level courses except CHEM 4681, specifically required biochemistry courses, and CHEM 4699. With approval, graduate chemistry courses may also be used as chemistry electives.

Management Electives

Management electives include MGT 3150, 3076, 4191, 4660; the latter three courses have a prerequisite of MGT 3062.

Bachelor of Science in Chemistry (Materials Option)

The Bachelor of Science in Chemistry degree program consists of a combination of requirements and electives that ensure a strong foundation in physical, inorganic, organic, and analytical chemistry while providing the flexibility to tailor the curriculum to satisfy specific interests or career goals. Biochemistry, Polymers, Materials, and Business Options are available for students who wish to include these fields as substantial components of their program. The judicious use of free electives also enables the student to achieve considerable knowledge of other disciplines at Georgia Tech, such as chemical and biomolecular engineering, materials engineering, computing, physics, mathematics, management, textiles, and biology. The chemistry curriculum options enable majors who are interested in medical, dental, or law school to meet admission requirements of these schools.

BACHELOR OF SCIENCE IN CHEMISTRY
MATERIALS OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Chemistry And Biochemistry

Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1313 QUANTITATIVE ANALYSIS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	**HRS**
CHEM 2311 ORGANIC CHEMISTRY I	3
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	**HRS**
CHEM 3411 PHYSICAL CHEMISTRY I	3
CHEM 3111 INORGANIC CHEMISTRY II	3
CHEM 3380 SYNTHESIS LAB II	3
MSE 2001 PRINCIPLES & APPLICATIONS OF ENGINEERING MATERIALS	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	**HRS**
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHEM 3481 PHYSICAL CHEMISTRY LAB I	2
CHEM 3211 ANALYTICAL CHEMISTRY	5
MSE 3000 CHEMICAL THERMODYNAMICS OF MATERIALS	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	**HRS**
CHEM 4681 ADVANCED CHEMISTRY LAB	5
CHEM 3511 or 4511 or 4512 (Biochemistry)	3
MSE 2020 CHARACTERIZATION OF MATERIALS	3

FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
MSE 3020 MATERIALS LAB	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

School of Chemistry and Biochemistry - Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Bachelor of Science in Chemistry (Polymer Option)

Students who wish to prepare for careers where a knowledge of polymers and/or materials would be beneficial may do so by choosing the Polymers Option or the Materials Option under the Bachelor of Science in Chemistry curriculum. These options may be of interest to students who plan careers in industry, teaching, or research, as well as those who wish to broaden their curriculum by including these important fields.

BACHELOR OF SCIENCE IN CHEMISTRY
POLYMER OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Chemistry And Biochemistry
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
BIOL 1510 BIOLOGICAL PRINCIPLES	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1313 QUANTITATIVE ANALYSIS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
CHEM 2311 ORGANIC CHEMISTRY I	3
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
CHEM 2312 ORGANIC CHEMISTRY II	3
CHEM 2380 SYNTHESIS LAB I	2
PHYS 2212 INTRODUCTORY PHYSICS II	4
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-FALL	HRS
CHEM 3411 PHYSICAL CHEMISTRY I	3
CHEM 3111 INORGANIC CHEMISTRY II	3
CHEM 3380 SYNTHESIS LAB II	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
CHEM 3412 PHYSICAL CHEMISTRY II	3
CHEM 3481 PHYSICAL CHEMISTRY LAB I	2
CHEM 3211 ANALYTICAL CHEMISTRY	5
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

FOURTH YEAR-FALL	HRS
CHEM 4681 ADVANCED CHEMISTRY LAB	5
CHEM 3511 or 4511 or 4512 (Biochemistry)	3
CHEM 4775 POLYMER SCIENCE & ENGINEERING I	3
POLYMER ELECTIVE(S)	3

TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
CHEMISTRY ELECTIVE(S)	3
CHEM 4776 POLYMER SCIENCE & ENGINEERING II	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

School of Chemistry and Biochemistry - Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Chemistry Electives

Chemistry electives include CHEM 3482 and all CHEM 4000-level courses except CHEM 4681, specifically required biochemistry courses, and CHEM 4699. With approval, graduate chemistry courses may also be used as chemistry electives.

Polymer Electives

The polymer electives may be fulfilled by polymer courses in science and engineering at the 3000 level or higher.

Certificate Programs

The School of Chemistry and Biochemistry offers, for non-chemistry majors, programs of study leading to certificates in three areas: biochemistry/ organic chemistry, chemical analysis, and physical/inorganic chemistry. These certificate programs should be of interest to students considering careers in medicine or chemical-related industries, as well as those who wish to strengthen their background in areas of chemistry that are not required by their major.

Each certificate program requires a minimum of twelve hours in a coherent program with at least nine hours at the 3000 level or higher. These courses must be chosen from the list of courses in the given emphasis area and must be completed with a *C* or better. Courses required by the student's major may not be used in the certificate program. Courses which may be taken to satisfy the certificate requirements are as follows:

1. Biochemistry/Organic Chemistry Certificate: CHEM 2312, 2313, 2380, 3511, 4311, 4341, 4511, 4512, 4581
2. Chemical Analysis Certificate: CHEM 2380, 3211, 3411, 3412, 4341, 4401
3. Physical/Inorganic Chemistry Certificate: CHEM 2380, 3111, 3380, 3411, 3412, 3481, 4452

Additional information regarding undergraduate programs is available by e-mailing us below, or writing to the:

Director of Undergraduate Studies
School of Chemistry and Biochemistry
Georgia Institute of Technology
Atlanta, Georgia 30332-0400.

Financial Aid

Financial support is available for graduate study in the School of Chemistry and Biochemistry. The usual form of financial aid for first-year students is the teaching assistantship. Most students beyond the first year are appointed as research assistants. Both teaching and research assistants receive full tuition waivers. Additional information on the graduate program is available by writing:

Graduate Coordinator,
School of Chemistry and Biochemistry,
Georgia Institute of Technology,
Atlanta, Georgia 30332-0400,

or by visiting **www.chemistry.gatech.edu**.

Master of Science in Chemistry

Two different programs of study leading to a master's degree are offered by the School of Chemistry and Biochemistry. The formal requirements for the M.S. degree (thesis option) are twenty-four credit hours of approved coursework beyond the bachelor's degree, along with an approved M.S. thesis. The formal requirement for the M.S. degree (non-thesis option) is thirty credit hours of approved coursework beyond the bachelor's degree. The M.S. degree (non-thesis option) is a terminal degree in this department. Current research includes multidisciplinary initiatives in: biomolecular structure, molecular biophysics, computational and theoretical chemistry, materials chemistry, nanochemistry, bio-organic chemistry, photochemistry and photobiology, polymer chemistry, sensors, and environmental chemistry.

Master of Science in Paper, Science, and Engineering

The Institute of Paper Science and Technology supports the M.S. and Ph. D degree programs offered by the Georgia Institute of Technology. The Paper Science and Engineering (PSE) provide students with a multidisciplinary graduate education in the science and engineering involved in the production of paper, tissue, and other products from natural fiber, and related industries. The processing and consolidation of natural fiber into a paper web involve complex chemical and mechanical processes. The advantages of a multidisciplinary approach in research and education supporting this field have long been recognized. The Georgia Tech PSE program integrates the former Institute of Paper Science and Technology multidisciplinary graduate program with the science and engineering programs available at Georgia Tech.

The M.S. and Ph.D. degrees in PSE are unique multidisciplinary degrees covering basic engineering and science disciplines involved in the production and consolidation of wood fiber products. Students are enrolled in the participating Georgia Tech school (referred to as the "home school") and, upon completion of degree requirements, the home school recommends the award of its M.S. or Ph.D. degree with an emphasis in Paper Science and Engineering. Degrees are being offered by the Schools of Chemical and Biomolecular Engineering, Chemistry and Biochemistry, Mechanical Engineering, and Materials Science and Engineering.

The paper industry continues to evolve through considerable consolidation and reorganization, and the need for innovation in the science and engineering of pulp and paper technology from plant biology to chemical treatment and processes involved in paper production is greater than ever. The PSE program provides research results and equips students with a unique set of skills to lead in this effort.

For More Information please visit **www.ipst.gatech.edu/degree_progs/index.html**.

Doctoral Program in Chemistry

The goal of the doctoral program is to provide proficient knowledge in a specialized area of chemistry, with particular emphasis being placed on original, independent, and scholarly research. Students working toward a Ph.D. must complete fifteen credit hours of courses and a series of seminar courses. Students should complete all course requirements in the first year of graduate study and present a seminar in the second year. The Ph.D. candidacy examination consists of a series of examinations in the major area based on a reading assignment from the recent literature and an original research proposal to be completed by the end of the second year. Independent research for the Ph.D. is demonstrated by completion of published work.

Doctoral Program in Bioinformatics

Participating Schools

College of Computing
School of Biomedical Engineering
School of Industrial and Sytems Engineering
School of Biology
School of Chemistry and Biochemistry
School of Mathematics

Objective of the program

The mission of the Georgia Tech Bioinformatics Ph.D. program is to educate and prepare graduate students to reach the forefront of leadership in the field of bioinformatics and computational biology, and to integrate research and education on the use of information technologies in biology and medicine. Thus, the program leading to a Ph.D. in Bioinformatics is an interdisciplinary program spanning a variety of academic departments at Georgia Tech.

Bioinformatics is a multidisciplinary field in which physical sciences, life sciences, computer science, and engineering are merged to solve both fundamental and applied problems in biology and medicine. The outcomes of bioinformatics and computational biology particularly include:

1. new and global perspectives into the organization and function of biological systems (fundamental biology);
2. new and novel targets for drug discovery and development; and
3. genetic/proteomic profiling for pharmaco-genomics or personalized medicine.

Thus, bioinformatics is emerging as a strategic discipline at the frontier of biology, biochemistry, biomedicine, bioengineering, computer science, and mathematics, impacting fundamental science, medicine, biotechnology, and society.

With its broad mission statement, this program at Georgia Tech has the following focus/strength areas:

1. Development of software tools, algorithms, and databases for gene identification, protein structural prediction, clustering analysis, and data mining
2. Application of bioinformatics to disease diagnosis, classification, prognosis, and treatment
3. Application of bioinformatics to fundamental biology and systems biology

There is an increasing demand for scientists with advanced training in bioinformatics. Professionals in this area should have a thorough knowledge of molecular biology, mathematics, and statistics, as well as computer science and engineering.

For more information visit **www.biology.gatech.edu/bioinformatics/bioinformatics_phd.htm**.

Doctoral Program in Paper, Science, and Engineering

The Institute of Paper Science and Technology supports the M.S. and Ph.D. degree programs offered by the Georgia Institute of Technology. The Paper Science and Engineering (PSE) provides students with a multidisciplinary graduate education in the science and engineering involved in the production of paper, tissue, and other products from natural fiber and related industries. The processing and consolidation of natural fiber into a paper web involve complex chemical and mechanical processes. The advantages of a multidisciplinary approach in research and education supporting this field have long been recognized. The Georgia Tech PSE program integrates the former Institute of Paper Science and Technology multidisciplinary graduate program with the science and engineering programs available at Georgia Tech.

The M.S. and Ph.D. degrees in PSE are unique multidisciplinary degrees covering basic engineering and science disciplines involved in the production and consolidation of wood fiber products. Students are enrolled in the participating Georgia Tech school (referred to as the "home school") and, upon completion of degree requirements, the home school recommends the award of its M.S. or Ph.D. degree with an emphasis in Paper Science and Engineering. Degrees are being offered by the Schools of Chemical and Biomolecular Engineering, Chemistry and Biochemistry, Mechanical Engineering, and Materials Science and Engineering.

The paper industry continues to evolve through considerable consolidation and reorganization, and the need for innovation in the science and engineering of pulp and paper technology from plant biology to chemical treatment and processes involved in paper production is greater than ever. The PSE program provides research results and equips students with a unique set of skills to lead in this effort.

For more information, please visit **www.ipst.gatech.edu/degree_progs/index.html**.

Certificate Program in Remote Sensing

Students completing the master's degree or doctoral degree requirements of the School may earn a Remote Sensing Certificate. Additional details can be found in this catalog at **www.catalog.gatech.edu/colleges/cos/eas/grad/certificates.php**.

School of Earth and Atmospheric Sciences (EAS)

Established in 1970
Location: 311 Ferst Drive
Telephone: 404.894.3893
Web site: **www.eas.gatech.edu**

General Information

The School of Earth and Atmospheric Sciences (EAS) is an interdisciplinary program that studies the Earth's physical and chemical environment. EAS takes an integrated Earth system science approach in which all components of the Earth system are studied and analyzed as parts of the larger coupled system. The curriculum is designed to provide its graduates with the intellectual insights needed to understand the evolution of the Earth's environment and its possible future changes. This integrated approach provides the context for professional training in environmental science and meteorology, as well as specialization for research careers in climate dynamics, atmospheric chemistry and air quality, aqueous geochemistry and biogeochemistry, oceanography, geophysics, and geohydrology.

Faculty

Chair and Professor

Judith A. Curry

Graduate Coordinator and Professor

Derek M. Cunnold

Undergraduate Coordinator and Director of Student Affairs

Dana Hartley

Georgia Research Alliance Eminent Scholar and Professor

Robert E. Dickinson.

Professors

George Chimonas, L. Timothy Long, E. Michael Perdue, Irina N. Sokolik, Peter J. Webster, Paul H. Wine

Emeriti Professors

William Chameides, Douglas D. Davis, Robert P. Lowell, Charles E. Weaver

Associate Professors

Michael H. Bergin, Robert Black, Rong Fu, L. Gregory Huey, Ellery D. Ingall, Carolyn D. Ruppel, Jean Lynch-Stieglitz, Mark Stieglitz, Martial Taillefert, David Tan, Yuhang Wang, Rodney J. Weber

Assistant Professors

Kim Cobb, Emanuele Di Lorenzo, Athanasios Nenes, Andrew Newman, Andrew Stack

Senior Research Scientists

Carlos A. Cardelino, Hai-Ru Chang, Michael E. Chang, Robert E. Stickel, Viatcheslav V. Tatarskii, Hsiang-Jui (Ray) Wang, Hui Wang, Wenyue Xu

Research Scientists II

Mingxuan Chen, Dan Collins, Huilin Gao, Jiping Liu, Muhammad Shaikh, James C. St. John, David J. Tanner, Yuhong Tian, Wanru Wu, Eun-Su Yang, Mei Zheng, Liming Zhou

Adjunct Faculty

Jack Blanton, Paul Crutzen, Heidi Cullen, Thomas DiChristina, James Gaherty, Leonid Germanovich, Gary Gimmestad, Richard Jahnke, Joseph Montoya, Carmen Nappo, Leonard Smith, Armistead Russell, Stuart Wakeham, Herbert Windom

B.S. in Earth and Atmospheric Sciences - General Information

The program leading to the degree Bachelor of Science in Earth and Atmospheric Sciences is based on forty-five hours of core courses within the School and forty-one hours of required courses in mathematics/computing and science. The EAS degree is comparable to traditional degrees in meteorology and environmental sciences, but the program has several unique attributes. EAS courses provide "hands-on" experiences in collection and interpretation of environmental data and in predictive modeling. The integrated approach of the program gives a broad environmental background, while still allowing students to specialize in meteorology, earth science, education, or a business option. The program prepares students for graduate study or immediate employment in fields such as meteorology, air quality, environmental chemistry, exploration geophysics, geological engineering, geological hazards, impact assessment, and environmental policy. Electives (twenty-seven hours), both within the School and in other units of Georgia Tech, allow students considerable flexibility in tailoring their degree programs according to individual career goals. The School provides incentives and encouragement for undergraduate students to participate in ongoing research with the faculty.

In addition to campus-wide academic requirements for graduation, a *C* or better is required in the following courses for the bachelor's degree in Earth and Atmospheric Sciences: MATH 1501, MATH 1502, PHYS 2211, CHEM 1310, BIOL 1510 or 1520, and CS 1371.

BACHELOR OF SCIENCE IN EARTH AND ATMOSPHERIC SCIENCES
2006 - 2007 DEGREE REQUIREMENTS
School Of Earth And Atmospheric Sciences

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I ***	4
CHEM 1310 GENERAL CHEMISTRY ***	4
EAS 1600 INTRODUCTION TO ENVIRONMENTAL SCIENCE	4
GT 1000 FRESHMAN SEMINAR	1
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II ***	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
CS 1371 COMPUTING FOR ENGINEERS ***	3
TOTAL SEMESTER HOURS =	**14**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I ***	4
EAS 2600 EARTH PROCESSES	4
TECHNICAL ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
WELLNESS	2
EAS 2655 QUANTITATIVE TECHNIQUES	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
EAS 3603 THERMODYNAMICS OF EARTH SYSTEMS	3
EAS CORE ELECTIVE(S) *	3
TECHNICAL ELECTIVE(S) **	3
BIOL 1510 BIOLOGICAL PRINCIPLES or 1520 INTRODUCTION TO ORGANISMAL BIOLOGY ***	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
EAS CORE ELECTIVE(S) *	4
TECHNICAL ELECTIVE(S) **	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
S0CIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
EAS 4610 EARTH SYSTEM MODELING	3
EAS 4651 PRACTICAL INTERNSHIP or EAS 4699 UNDERGRADUATE RESEARCH	3
TECHNICAL ELECTIVE(S) **	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	4

TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
EAS 4420 ENVIRONMENTAL FIELD METHODS	4
TECHNICAL ELECTIVE(S) **	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** Choose two of the following four with at least one including a lab 3620 or 4740/4641**

1. EAS 3620 Geochemistry
2. EAS 4630 Physics of the Earth
3. EAS 4655 Atmospheric Dynamics
4. EAS 4740 Atmospheric Chemistry and EAS 4641 Atmos. Chem Lab

**** All upper division courses in EAS can count as technical electives, as well as other new courses introduced by EAS faculty, Special Problems (up to 3 credit hours) , or upper division courses in Math, Physics, Biology, Chemistry, and CEE, if approved by the Undergraduate Coordinator.**

***** In addition to campus-wide academic requirements for graduation, a *C* or better is required in the following courses for the bachelor's degree in Earth and Atmospheric Sciences: MATH 1501, MATH 1502, PHYS 2211, CHEM 1310, BIOL 1510 or 1520, and CS 1371.**

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Electives

EAS students are required to complete fifteen hours of technical electives in science, engineering, and mathematics. All upper division courses in EAS can count as technical electives, as well as other new courses introduced by EAS faculty, Special Problems (up to three credit hours), or upper-division courses in math, physics, ciology, chemistry, and civil and environmental engineering, if approved by the undergraduate coordinator.

Those students who choose the business option may substitute two management courses for EAS technical electives. All EAS students are required to complete an additional eleven hours of free electives in areas of their choice. Students should consult the School's undergraduate coordinator for advice on their electives.

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

B.S. in Earth and Atmospheric Sciences - Research Option

The B.S. in Earth and Atmospheric Sciences with Research Option allows a student to emphasize his or her interest in research. To complete the Research Option in the School of Earth and Atmospheric Sciences, students must:

1. Complete at least nine units of undergraduate research
    1. Over at least two, preferably three terms
    2. Research may be for either pay or credit. To get credit towards completion of the Research Option for research for pay, students must be registered for the appropriate audit-only, research for pay class (EAS 2698 or 4698).
2. Take the class LCC 4700 Writing an Undergraduate Thesis prior to or during the thesis-writing semester
3. Write an undergraduate thesis/report of research on their findings

Completion of the Research Option is noted on the student's transcript. For more information, see: **www.urop.gatech.edu**.

To read more about the Earth and Atmospheric Sciences major please see the B.S. in Earth and Atmospheric Sciences description **here**.

BACHELOR OF SCIENCE IN EARTH AND ATMOSPHERIC SCIENCES
RESEARCH OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Earth And Atmospheric Sciences
Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I ***	4
CHEM 1310 GENERAL CHEMISTRY ***	4
EAS 1600 INTRODUCTION TO ENVIRONMENTAL SCIENCE	4
GT 1000 FRESHMAN SEMINAR	1
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II ***	4
CHEM 1311 INORGANIC CHEMISTRY I	3
CHEM 1312 INORGANIC CHEMISTRY LAB I	1
CS 1371 COMPUTING FOR ENGINEERS ***	3
TOTAL SEMESTER HOURS =	**14**

SECOND YEAR-FALL	**HRS**
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I ***	4
EAS 2600 EARTH PROCESSES	4
TECHNICAL ELECTIVE(S) **	3
TOTAL SEMESTER HOURS =	**15**

SECOND YEAR-SPRING	**HRS**
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
WELLNESS	2
EAS 2655 QUANTITATIVE TECHNIQUES	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
EAS 3603 THERMODYNAMICS OF EARTH SYSTEMS	3
EAS CORE ELECTIVE(S) *	3
TECHNICAL ELECTIVE(S) **	3
BIOL 1510 BIOLOGICAL PRINCIPLES or 1520 INTRODUCTION TO ORGANISMAL BIOLOGY ***	4
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	**HRS**
EAS CORE ELECTIVE(S) *	4
TECHNICAL ELECTIVE(S) **	3
HUMANITIES ELECTIVE(S)	3
EAS 4699 UNDERGRADUATE RESEARCH	3
S0CIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	**HRS**
EAS 4610 EARTH SYSTEM MODELING	3
EAS 4699 UNDERGRADUATE RESEARCH	3
TECHNICAL ELECTIVE(S) **	3
SOCIAL SCIENCE ELECTIVE(S)	3

LCC 4700 UNDERGRADUATE THESIS WRITING	2
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-SPRING	**HRS**
EAS 4420 ENVIRONMENTAL FIELD METHODS	4
EAS 4699 UNDERGRADUATE RESEARCH	3
HUMANITIES ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

*** Choose two of the following four with at least one including a lab 3620 or 4740/4641**

EAS 3620 Geochemistry
EAS 4630 Physics of the Earth
EAS 4655 Atmospheric Dynamics
EAS 4740 Atmospheric Chemistry and EAS 4641 Atmos. Chem Lab

**** All upper division courses in EAS can count as technical electives, as well as other new courses introduced by EAS faculty, Special Problems (up to 3 credit hours) , or upper division courses in Math, Physics, Biology, Chemistry, and CEE, if approved by the Undergraduate Coordinator.**

***** In addition to campus-wide academic requirements for graduation, a *C* or better is required in the following courses for the bachelor's degree in Earth and Atmospheric Sciences: MATH 1501, MATH 1502, PHYS 2211, CHEM 1310, BIOL 1510 or 1520, and CS 1371.**

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Electives

EAS students are required to complete fifteen hours of technical electives in science, engineering, and mathematics. Those students who choose the business option may substitute two management courses for EAS technical electives. All EAS students are required to complete an additional twelve hours of free electives in areas of their choice. Students should consult the School's undergraduate coordinator for advice on their electives.

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

B.S./M.S. Earth and Atmospheric Sciences (Five-year)

EAS offers a 5-year B.S./M.S. Program. EAS majors may apply to the B.S./M.S. program after completing at least thirty semester credit hours at Georgia Tech with a GPA of at least 3.5.

Students admitted to the program must maintain a cumulative GPA of at least 3.0.

As part of the program, students may use up to six credit hours of graduate-level coursework in the major discipline for both degrees.

To apply, complete the B.S./M.S. application form, a biographical statement, and two letters of recommendation.

For more information contact see our **Web site** .

Minor in Earth and Atmospheric Sciences

A minor in Earth and Atmospheric Sciences may be obtained by completing specified EAS courses. It is designed for students interested in environmental/atmospheric chemistry, solid Earth geophysics/planetology, Earth systems science, hydrogeology, physical/chemical oceanography, atmospheric dynamics, environmental geophysics, or soils science.

Certificate Programs

The School of Earth and Atmospheric Sciences offers programs of study for non-School majors leading to certificates in two areas of emphasis: geochemistry and solid earth geophysics. Each course must be completed with a *C* or better.

Additional information regarding undergraduate programs, the minor, and the certificate programs is available by contacting:

Undergraduate Coordinator,
School of Earth and Atmospheric Sciences,
Georgia Institute of Technology,
Atlanta, Georgia 30332-0340.

Master of Science in Earth and Atmospheric Sciences

Students can choose a program of study leading to either the designated master's degree (with thesis) or the undesignated master's degree (without thesis). General requirements for these degrees are found in this catalog under "Information for Graduate Students." In either program of study, students can specialize in atmospheric chemistry and air pollution, atmospheric dynamics and climate, geochemistry, solid earth and environmental geophysics, ocean sciences, or the hydrologic cycle. With approval of the School's faculty, multidisciplinary programs of study are also permitted. Students entering the master's degree program need an academic background that includes a minimum of one year of university-level courses in calculus, chemistry, and physics. Students who lack this academic background are required to complete appropriate remedial courses, for which they will not receive graduate credit.

Students can satisfy the requirements for the designated master's degree by completing a faculty-approved set of courses and a master's thesis in earth and atmospheric sciences. With approval of the School chair, students can satisfy the requirements for the undesignated master's degree by completing a faculty-approved set of courses and a three-hour Special Problems course. This course must take the form of a research project supervised by the student's advisor and culminating in a written final report.

Master of Science with a Major in Earth and Atmospheric Science

Students can choose a program of study leading to either the designated master's degree (with thesis) or the undesignated master's degree (without thesis). General requirements for these degrees are found in this catalog under "Information for Graduate Students." In either program of study, students can specialize in atmospheric chemistry and air pollution, atmospheric dynamics and climate, geochemistry, solid earth and environmental geophysics, ocean sciences, or the hydrologic cycle. With approval of the School's faculty, multidisciplinary programs of study are also permitted. Students entering the master's degree program need an academic background that includes a minimum of one year of university-level courses in calculus, chemistry, and physics. Students who lack this academic background are required to complete appropriate remedial courses, for which they will not receive graduate credit.

Students can satisfy the requirements for the designated master's degree by completing a faculty-approved set of courses and a master's thesis in earth and atmospheric sciences. With approval of the School chair, students can satisfy the requirements for the undesignated master's degree by completing a faculty-approved set of courses and a three-hour Special Problems course. This course must take the form of a research project supervised by the student's advisor and culminating in a written final report.

Doctoral Program in Earth and Atmospheric Sciences

Doctoral students are engaged primarily in original, independent research that culminates in the doctoral dissertation. In this School, students can specialize in atmospheric chemistry and air pollution, atmospheric dynamics and climate, geochemistry, solid earth and environmental geophysics, ocean sciences, or the hydrologic cycle. With approval of the School's faculty, multidisciplinary programs of study are also permitted. In each area of specialization, doctoral students are required to complete a faculty-approved set of core courses and a comprehensive examination. Students are also required to complete nine semester hours of coursework in an academic minor.

Certificate Program in Geohydrology

Students completing the master's degree or doctoral degree requirements of the School may be awarded a Multidisciplinary Geohydrology Certificate if their program of study satisfies the requirements of the Multidisciplinary Geohydrology program. Additional details can be found in this catalog under **Multidisciplinary Certificate Programs in Engineering**.

Certificate Program In Remote Sensing

Remote sensing refers to a means of investigating the properties of a target using measurements made at some distance from the target. Applications range from astronomy and environmental applications to medical radiography and automotive collision avoidance radars, as well as security-enhancing sensors. In the last three decades, sensing of the Earth and its atmosphere has increased very substantially because of climate change and global pollution concerns and because of the need for measurements to support the increasingly sophisticated weather and earthquake forecasting and oil and gas surveying capabilities.

Students completing the master's degree or doctoral degree requirements of the schools listed below may be awarded a Remote Sensing Certificate. The primary administration of the certificate is through Dr. Derek Cunnold of the School of Earth and Atmospheric Sciences. Departmental contacts are listed below:

Aerospace Engineering-point of contact: Dr. Robert Braun
Electrical and Computer Engineering-point of contact: Dr. Manos Tentzeris
Earth and Atmospheric Sciences-point of contact: Dr. Derek Cunnold
Civil and Environmental Engineering-point of contact: Dr. Michael Bergin
Chemistry and Biochemistry-point of contact: Dr. Thomas Orlando
City Planning-point of contact: Dr. Steven French

The courses that would be used to satisfy the requirements of this certificate have been divided into two areas: First, a group of core courses that cover both fundamentals and applications of remote sensing; second, elective courses that cover a range of courses that cover fundamental physics, data analysis methods, and application areas. A total of twelve credit hours are required to obtain the certificate, including at least two core courses. Nine of the hours must be at the 6000 level or above.

Area 1: Core Courses

CP 6531: Introduction to Remote Sensing Introduces students to the collection and use of satellite imagery and other remote sensing data

EAS 4430: Remote Sensing and Data Analysis Introduction to passive environmental remote sensing of the atmosphere and the earth. Laboratory examples of data and image analysis for remote sensing applications

EAS 4460: Satellite and Radar Meteorology Interpretation of satellite and radar data for meteorological forecasting based on understanding radiative transfer and the resulting strengths and limitations of the imagery

EAS 6145: Remote Sensing of the Atmosphere and Oceans Provides foundation for understanding the physical principles of remote sensing and its applications to the study of atmospheric gases, clouds, and ocean surfaces

ECE 4390: Introduction to Radar and Electromagnetic Sensing Introduces students to radar systems, including pulsed CW, CWFM, and MTI radars, and other techniques for electromagnetic sensing such as radiometry and EM tagging are discussed

Area 2: Electives

AE 6354: Advanced Orbital Mechanics Advanced concepts in orbital mechanics including orbital perturbations, rendezvous, N-body effects, non-spherical gravitational harmonics, and low-thrust maneuvers

AE 8803: Special Topics Course may be taught as Astrodynamics I Historical background and equations of motion, two-body orbital mechanics, orbit determination and prediction, orbital maneuvers, Earth remote sensing and reconnaissance orbits, lunar and interplanetary trajectories and orbital rendezvous

CEE 6222: Hydrometeorology Estimation of hydrologic variables from on-site and remote sensors, operational hydrologic models, parameter estimation, and operational forecasting

CEE 6462: Signals and Inverse Problems in Civil Engineering Civil engineering signals and systems, discrete time and frequency domain operations, nonlinear and nonstationary systems, inverse problems, matrix-based and other solutions, tomography, and civil engineering examples

CEE 6483: Geotechnical Image and Spatial Analysis Presentation of techniques for spatial and image processing and analysis of subsurface data at micro and macro scales

CP 6521: Advanced Geographic Information Systems Provides students with advanced spatial analysis techniques including network analysis, three-dimensional surface modeling, and GIS applications

EAS 4510: Exploration Geophysics Methods of exploration geophysics, including refraction and reflection seismology, resistivity, gravity, magnetics, and ground penetrating radar, including laboratory work and introduction to operation of field equipment

EAS 4520: Seismic Methods in Exploration Geophysics A study of seismic reflection exploration methods and theory, with examples taken from oil industry exploration and production and near-surface environmental imaging

EAS 6134: Inverse Methods and Time Series Analysis in EAS Theory of remotely-sensed data acquisition, time series analysis, and discrete inverse theory, with applications in the earth and atmospheric sciences

EAS 8803: Special Topics May be taught as Atmospheric Radiative Transfer. This course provides a foundation for understanding the theoretical and computer modeling principles of radiative transfer in planetary atmospheres

EAS 8803: Special Topics May be taught as Optical Techniques in Atmospheric Sensing. Discusses light propagation and scattering, and instrumentation used to make remote measurements in the atmosphere, including a description of infrared atmospheric spectra

ECE 6272: Fundamentals of Radar Signal Processing Signal modeling, including radar cross section, multipath, and clutter, properties of the ambiguity function and coded waveforms, and algorithms for Doppler processing, detection, and radar imaging

ECE 6780: Medical Image Processing A study of methods for enhancing, analyzing, interpreting, and visualizing information from two- and three-dimensional data obtained from a variety of medical imaging modalities

ECE 7370: Antennas and Wave Propagation in Matter Basic methods for characterizing the electromagnetic properties of common materials (geophysical, biological, etc.) and techniques for analyzing antennas and wave propagation in these materials

Courses in development:

AE/EAS 4XXX: Designing a UAV for Remote Sensing Applications This course is being planned and EAS recently received a NASA grant to provide education in this subject area

EAS 6XXX: Earth Science/Geological Applications of Remote Sensing A new hire in EAS geodetic remote sensing starting in fall 2005 will be creating this course. It probably will include Global Positioning System (GPS) applications

Other new courses on remote sensing may qualify as electives for this certificate with approval by the EAS graduate coordinator, Dr. Derek Cunnold.

School of Mathematics - General Information

Established in 1952
Location: Skiles Building
Telephone: 404.894.2700
Fax: 404.894.4409
Web site: **www.math.gatech.edu**

General Information

Mathematics forms an integral part of the curricula of most students at Georgia Tech. Consequently, the School of Mathematics offers a wide range of courses serving students in the various engineering, science, and management disciplines. In addition, the School offers programs of study leading to the bachelor's, master's, and doctoral degrees in mathematics.

Such programs of study serve as preparation for mathematics careers, professional schools, and graduate studies.

In addition to basic courses in mathematics, the School offers a variety of specialized courses at the undergraduate and graduate levels, emphasizing areas related to the research activities of the faculty. These include mathematical analysis, applied mathematics, differential equations and partial differential equations, geometry, scientific computing, probability, statistics, combinatorics, mathematical physics, topology, and algebra.

The School of Mathematics has excellent computer facilities that are used in conjunction with an increasing number of courses and programs of study. A Cooperative Plan for students who wish to combine practical experience with academic work is available for mathematics majors.

Faculty

Chair and Professor

William T. Trotter

Associate Chair and Professor

Alfred D. Andrew

Associate Chair, Coordinator of Graduate Programs, and Professor

Luca Dieci

Associate Chair, Coordinator of Undergraduate Programs, and Professor

Yang Wang

Director of Advising and Assessment

Enid Steinbart

Assistant Coordinator of Undergraduate Programs

Rena Brakebill

Director of Information Technology

Lew E. Lefton

Regents’ Professors

William F. Ames (emeritus), Leonid Bunimovich, Jack K. Hale (emeritus)

Professors

Johan G.F. Belinfante, Jean Bellissard, Eric A. Carlen, Shui-Nee Chow, Richard A. Duke, Laszlo Erdös, Wilfrid Gangbo, Stavros Garoufalidis, Jeffrey S. Geronimo, William L. Green, Evans M. Harrell II, Christopher Heil, Christian Houdré, Robert P. Kertz, Vladimir Koltchinskii, Michael T. Lacey, Thang Le, Wing Suet Li, Michael Loss, Doron Lubinsky, Konstantin Mischaikow, Thomas D. Morley, Andrzej Swiech, Prasad Tetali, Robin Thomas, Yingfei Yi, Xingxing Yu

Professors Emeriti

George L. Cain Jr., Nathaniel Chafee , Jamie J. Goode, James V. Herod , Theodore P. Hill , Dar-Vieg Ho , Roger D. Johnson ,Robert H. Kasriel, John P. Line, Gunter H. Meyer , James M. Osborn , Daniel A. Robinson , Ronald W. Shonkwiler , M. Carl Spruill , Frank W. Stallard , Michael P. Stallybrass, Yung L. Tong

Associate Professors

Saguata Basu, Xu-Yan Chen, Mihai Ciucu, John Etnyre, Mohammad Ghomi, John McCuan, Chongchun Zeng

Assistant Professors

Matthew Baker, Yuri Bakhtin, Igor Belegradek, Federico Bonetto, Ernest Croot, Guillermo Goldsztein, Serge Guillas, Plamen Iliev, Yingjie Liu, Heinrich Matzinger, Gerd Mockenhaupt, Peter J. Mucha, Ronghua Pan, Liang Peng, Anurag Singh, Margaret Symington, Hao Min Zhou

Adjunct Professors

William J. Cook, Dana Randall

Academic Professional

Mona Meddin

Instructors

Steven Demko, John Elton, Klara Grodzinsky, Cathleen Jacobson

Undergraduate Programs

The School of Mathematics offers programs leading to two undergraduate degrees: the Bachelor of Science in Applied Mathematics and the Bachelor of Science in Discrete Mathematics. Both programs emphasize the study of core mathematics as well as its applications. They provide excellent preparation for employment, as well as graduate study in mathematics and related fields.

Bachelor of Science in Applied Mathematics

Reflecting the scientific environment at Georgia Tech, the bachelor's program in applied mathematics trains students in the traditional core mathematics curriculum, as well as in its applications. The undergraduate program is sufficiently flexible to accommodate the wide variety of interests of undergraduate majors, and yet by its scientific breadth, it prepares the student for the extensive employment opportunities that exist for applied mathematicians. Students are encouraged to develop an expertise in another field related to mathematics. This can be accomplished by developing a program of study involving technical electives and an appropriate concentration within mathematics. Some of the more popular fields include physics, computer science, electrical engineering, industrial engineering, operations research, and economics. The School of Mathematics has a large, well networked computer lab that is utilized in courses throughout the undergraduate curriculum.

In addition to the institutional requirement of at least a 2.0 grade point average for the entire academic program, the School of Mathematics requires a *C* or better in each of MATH 4107, 4317, 4318, and 4320. Students may count no more than two hours of coursework in physical education toward graduation. Only free electives or MATH 4999 in the degree program may be taken on a pass/fail basis, and no more than nine hours are allowed under this option.

BACHELOR OF SCIENCE IN APPLIED MATHEMATICS
2006 - 2007 DEGREE REQUIREMENTS
School Of Mathematics

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
WELLNESS	2
CS 1301 INTRODUCTION TO COMPUTING	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
LAB SCIENCE (Biol, Chem, Eas)	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

SECOND YEAR-SPRING	HRS
MATH 2406 ABSTRACT VECTOR SPACES	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
MATH 3012 APPLIED COMBINATORICS	3
ENGINEERING or SCIENCE ELECTIVE(S) (3000 Level)	3
MATH ELECTIVE(S) (3000 Level)	6
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
MATH 3215 PROBABILITY & STATISTICS	3
MATH ELECTIVE(S) (3000 Level)	9
ENGINEERING or SCIENCE ELECTIVE(S) (3000 Level)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
MATH 4107 ABSTRACT ALGEBRA I	3
MATH 4640 NUMERICAL ANALYSIS I	3
MATH 4317 ANALYSIS I	3
PHYS ELECTIVE(S) (3000 Level)	3
FREE ELECTIVE(S)	2
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
MATH 4318 ANALYSIS II	3
MATH 4320 COMPLEX ANALYSIS	3
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**15**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Substitutions

Honors physics and mathematics courses may be substituted for the corresponding regular courses.

Math Electives

Mathematics courses at the 3000 level or higher, with the exception of MATH 3770, and certain Special Topics Classes.

Engineering or Science Electives

The School of Mathematics requires that students complete two courses (total six hours) of engineering or science electives at the 3000 level or higher. These courses must be taken from the same approved school. The following schools are approved: College of Sciences–Biology, Chemistry and Biochemistry, Earth and Atmospheric Sciences, Physics, and Psychology; College of Engineering–all engineering schools; College of Computing; and Ivan Allen College–Economics.

Humanities and Social Sciences Electives

Six credit hours of **humanities** are required in addition to ENGL 1101 and ENGL 1102. The School of Mathematics recommends that students take a one-year sequence of courses in a modern language. All students must satisfy a **state requirement** regarding coursework in the history and constitutions of the United States and Georgia by taking one course from HIST 2111, HIST 2112, INTA 1200, POL 1101, or PUBP 3000. An additional nine credit hours of **social sciences** are required.

Bachelor of Science in Applied Mathematics (Business Option)

Reflecting the scientific environment at Georgia Tech, the bachelor's program in applied mathematics trains students in the traditional core mathematics curriculum, as well as in its applications. The undergraduate program is sufficiently flexible to accommodate the wide variety of interests of undergraduate majors, and yet by its scientific breadth, it prepares the student for the extensive employment opportunities that exist for applied mathematicians. Students are encouraged to develop an expertise in another field related to mathematics. This can be accomplished by developing a program of study involving technical electives and an appropriate concentration within mathematics. Some of the more popular fields include physics, computer science, electrical engineering, industrial engineering, operations research, and economics. The School of Mathematics has a large, well-networked computer lab that is utilized in courses throughout the undergraduate curriculum.

In addition to the institutional requirement of at least a 2.0 grade point average for the entire academic program, the School of Mathematics requires a *C* or better in each of MATH 4107, 4317, 4318, and 4320. Students may count no more than two hours of coursework in physical education toward graduation. Only free electives or MATH 4999 in the degree program may be taken on a pass/fail basis, and no more than nine hours are allowed under this option.

Business Option

The School of Mathematics offers a Business Option variant of both undergraduate degree programs. This option is designed for students who wish to acquire and document the skills and knowledge needed for success as a scientific entrepreneur. Students electing this option complete the degree requirements for Applied Mathematics or for Discrete Mathematics programs, except that:

1. two of their social science electives must be PSYC 2220 Industrial/Organic Psychology (3) and ECON 2106 Principles of Microeconomics (3);
2. two courses - MGT 3000 Accounting (3) and MGT 3300 Marketing Management I (3) - replace the six hours of engineering or science electives in the Applied Mathematics program, and replace six hours of the nine hours of technical electives in the Discrete Mathematics program; and
3. MGT 3150 Principles of Management (3) replaces three hours of free electives.

For further information, consult a School of Mathematics advisor.

BACHELOR OF SCIENCE IN APPLIED MATHEMATICS
BUSINESS OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Mathematics
Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
WELLNESS	2
CS 1301 INTRODUCTION TO COMPUTING	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
LAB SCIENCE (Biol, Chem, Eas)	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HUMANITIES ELECTIVE(S)	3
PSYC 2220 INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY	3
TOTAL SEMESTER HOURS =	**14**

SECOND YEAR-SPRING	HRS
MATH 2406 ABSTRACT VECTOR SPACES	3
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
TOTAL SEMESTER HOURS =	**14**

THIRD YEAR-FALL	HRS
MATH 3012 APPLIED COMBINATORICS	3
MGT 3000 ACCOUNTING FOR DECISION MAKING	3
MATH ELECTIVE(S) (3000 Level)	6
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
MATH 3215 PROBABILITY & STATISTICS	3
MATH ELECTIVE(S) (3000 Level)	9
MGT 3300 MARKETING MANAGEMENT I	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
MATH 4107 ABSTRACT ALGEBRA I	3
MATH 4640 NUMERICAL ANALYSIS I	3
MATH 4317 ANALYSIS I	3
PHYS ELECTIVE(S) (3000 Level)	3
MGT 3150 PRINCIPLES OF MANAGEMENT	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	HRS
MATH 4318 ANALYSIS II	3
MATH 4320 COMPLEX ANALYSIS	3
FREE ELECTIVE(S)	8
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science in Discrete Mathematics

Certain areas of mathematics have become increasingly important over the past twenty years due to the introduction of computing into nearly every aspect of science, technology, and business. These are the branches of mathematics that are devoted to the study of discrete as opposed to continuous structures. The methods of discrete mathematics are used whenever objects are to be counted, when the relationships between finite sets are examined, and when processes involving a finite number of steps are studied. These methods become essential when, for example, computer algorithms are analyzed, transportation networks or communications systems are designed, or when optimal schedules are sought. Many problems associated with the transmission and storage of information, the design of complicated circuits, or the identification of organic chemicals require the tools of discrete mathematics. Several fields of application, most notably operations research and computer science, not only use the techniques of discrete mathematics, but have also contributed significantly to the development of the subject. For this reason, the curriculum for this bachelor's degree program combines basic work in mathematics and science and advanced studies in discrete mathematics with substantial training in these areas of application. After completion of the program's core requirements in the first two years, students take fifteen hours of mathematics, nine to ten hours of computer science, and six hours of industrial and systems engineering. The program requires nine hours of approved technical electives. The list of approved technical electives includes mathematics, computing, electrical engineering, and operations research. Four hours for the senior research project and twelve hours of free electives complete the program. In addition to the Institute requirement of a grade point average of at least 2.0, the School of Mathematics requires a C or better in each of MATH 4022, 4107, and 4317. Students may count no more than two hours of coursework in physical education toward graduation. Only free electives or MATH 4999 in the degree program may be taken on a pass/fail basis, and no more than nine hours are allowed under this option.

BACHELOR OF SCIENCE IN DISCRETE MATHEMATICS
2006 - 2007 DEGREE REQUIREMENTS
School Of Mathematics

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
WELLNESS	2
CS 1301 INTRODUCTION TO COMPUTING	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
LAB SCIENCE (Biol, Chem, Eas)	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2406 ABSTRACT VECTOR SPACES	3
MATH 2602 LINEAR & DISCRETE MATHEMATICS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
HUMANITIES ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
MATH 3012 APPLIED COMBINATORICS	3
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS	3
CS 2335 (3) & FREE ELECTIVES (7) OR CS 2110 (4) & FREE ELECTIVES (6)	10
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
MATH 3215 PROBABILITY & STATISTICS	3
ISYE 3133 ENGINEERING OPTIMIZATION	3
CS 4510 AUTOMATA & COMPLEXITY THEORY	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

FOURTH YEAR-FALL	HRS
MATH 4080 SENIOR PROJECT I	2
MATH 4107 ABSTRACT ALGEBRA I	3
MATH 4022 INTRODUCTION TO GRAPH THEORY	3
MATH 4317 ANALYSIS I	3
TECHNICAL ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	HRS
MATH 4090 SENIOR PROJECT II	2
ISYE 3232 STOCHASTIC MANUFACTURING & SERVICE SYSTEMS	3
TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Substitutions

MATH 4580 may be substituted for ISYE 3133. Honors physics and mathematics courses may be substituted for the corresponding regular courses.

Technical Electives

Students must complete nine hours of technical electives from the following list: MATH 2403, 4012, 4032, 4150, 4221, 4222, 4255, 4261, 4262, 4280, 4318, 4320, 4431, 4432, 4640, 4641, 4777; CS 2220, 3220, 3251, 3240, 3451, 4500; ISYE 3103, 3104, 3044, 4833; ECE 2025, 2030, 2031, 3055, 3075, 3085, 4270.

Humanities and Social Sciences Electives

Six credit hours of **humanities** are required in addition to ENGL 1101 and ENGL 1102. The School of Mathematics recommends that students take a one-year sequence of courses in a modern language. All students must satisfy a **state requirement** regarding coursework in the history and constitutions of the United States and Georgia by taking one course from HIST 2111, HIST 2112, INTA 1200, POL 1101, or PUBP 3000. An additional nine credit hours of **social sciences** are required.

Bachelor of Science in Discrete Mathematics (Busness Option)

Certain areas of mathematics have become increasingly important over the past twenty years due to the introduction of computing into nearly every aspect of science, technology, and business. These are the branches of mathematics that are devoted to the study of discrete as opposed to continuous structures. The methods of discrete mathematics are used whenever objects are to be counted, when the relationships between finite sets are examined, and when processes involving a finite number of steps are studied. These methods become essential when, for example, computer algorithms are analyzed, transportation networks or communications systems are designed, or when optimal schedules are sought. Many problems associated with the transmission and storage of information, the design of complicated circuits, or the identification of organic chemicals require the tools of discrete mathematics. Several fields of application, most notably operations research and computer science, not only use the techniques of discrete mathematics, but have also contributed significantly to the development of the subject. For this reason, the curriculum for this bachelor's degree program combines basic work in mathematics and science and advanced studies in discrete mathematics with substantial training in these areas of application. After completion of the program's core requirements in the first two years, students take fifteen hours of mathematics, nine to ten hours of computer science, and six hours of industrial and systems engineering. The program requires nine hours of approved technical electives. The list of approved technical electives includes mathematics, computing, electrical engineering, and operations research. Four hours for the senior research project and twelve hours of free electives complete the program. In addition to the Institute requirement of a grade point average of at least 2.0, the School of Mathematics requires a C or better in each of MATH 4022, 4107, and 4317. Students may count no more than two hours of coursework in physical education toward graduation. Only free electives or MATH 4999 in the degree program may be taken on a pass/fail basis, and no more than nine hours are allowed under this option.

Business Option

The School of Mathematics offers a Business Option variant of both undergraduate degree programs. This option is designed for students who wish to acquire and document the skills and knowledge needed for success as a scientific entrepreneur. Students electing this option complete the degree requirements for Applied Mathematics or for Discrete Mathematics programs, except that:

1. two of their social science electives must be PSYC 2220 Industrial/Organic Psychology (3) and ECON 2106 Principles of Microeconomics (3);
2. two courses - MGT 3000 Accounting (3) and MGT 3300 Marketing Management I (3) - replace the six hours of engineering or science electives in the Applied Mathematics program, and replace six hours of the nine hours of technical electives in the Discrete Mathematics program; and
3. MGT 3150 Principles of Management (3) replaces three hours of free electives.

For further information, consult a School of Mathematics advisor.

BACHELOR OF SCIENCE IN DISCRETE MATHEMATICS
BUSINESS OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Mathematics
Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
WELLNESS	2
CS 1301 INTRODUCTION TO COMPUTING	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**15**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
LAB SCIENCE (Biol, Chem, Eas)	4
CS 1331 INTRO OBJECT ORIENTED PROGRAMMING	3
CS 1050 UNDERSTANDING & CONSTRUCTING PROOFS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	**HRS**
MATH 2401 CALCULUS III	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
HUMANITIES ELECTIVE(S)	3
PSYC 2220 INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY	3
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
MATH 2406 ABSTRACT VECTOR SPACES	3
MATH 2602 LINEAR & DISCRETE MATHEMATICS	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
TOTAL SEMESTER HOURS =	**14**

THIRD YEAR-FALL	**HRS**
MATH 3012 APPLIED COMBINATORICS	3
CS 2335 (3) & FREE ELECTIVES (4) OR CS 2110 (4) & FREE ELECTIVES (3)	7
CS 3510 DESIGN & ANALYSIS OF ALGORITHMS	3
MGT 3000 ACCOUNTING FOR DECISION MAKING	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	**HRS**
MATH 3215 PROBABILITY & STATISTICS	3
CS 4510 AUTOMATA & COMPLEXITY THEORY	3
ISYE 3133 ENGINEERING OPTIMIZATION	3
MGT 3300 MARKETING MANAGEMENT I	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	**HRS**
MATH 4080 SENIOR PROJECT I	2
MATH 4107 ABSTRACT ALGEBRA I	3
MATH 4022 INTRODUCTION TO GRAPH THEORY	3
MATH 4317 ANALYSIS I	3
MGT 3150 PRINCIPLES OF MANAGEMENT	3

TOTAL SEMESTER HOURS =	**14**

FOURTH YEAR-SPRING	**HRS**
MATH 4090 SENIOR PROJECT II	2
ISYE 3232 STOCHASTIC MANUFACTURING & SERVICE SYSTEMS	3
TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Minor in Mathematics

A student may earn a Minor in Mathematics by fulfilling, in addition to the general Institute requirements, the requirements in one of the two tracks specified below.

Track I

MATH 4317, MATH 4107, MATH 4305, and nine additional hours of 3000-level or higher mathematics courses.

Track II

At least nine hours in one of the following fields:

1. Analysis: MATH 4317, 4318, 4320, 4581, 4640, 4641
2. Algebra and Number Theory: MATH 4012, MATH 4107, 4108, 4150, 4305
3. Probability and Statistics: MATH 3215, 3770, 4221, 4222, 4225, 4261, 4262, 4280
4. Dynamics and Differential Equations: MATH 4347, 4348, 4541, 4542, 4581
5. Discrete Mathematics: MATH 3012, 4012, 4022, 4032, 4580
6. Geometry and Topology: MATH 4431, 4432, 4441

Nine additional hours of 3000-level or higher mathematics courses are also required.

For further information, consult the departmental advisor.

Further Rules

1. No more than four semester hours of Special Topics courses may be used.
2. No Special Problems or Internship coursework may be used.
3. All coursework in the program must be completed with an overall grade point average of at least 2.0.
4. Courses must be completed on a letter grade mode.
5. No more than two minors may be awarded with a degree. Each must contain eighteen semester hours not used in the other minor.
6. Courses required by name and number in a student's major degree program may not be used in satisfying the minor requirement.

For further information, consult the departmental advisor.

Master of Science in Mathematics

The School of Mathematics provides opportunities for study in a wide range of mathematical disciplines. First-year graduate sequences include algebra, analysis, differential equations, geometry, numerical analysis, probability, quantitative finance, statistics, and topology in addition to courses in methods of applied mathematics.

A program of study leading to a master's degree in mathematics should include analysis consisting of MATH 6327 and either MATH 6580 or MATH 7334. In addition, students should take six hours of coursework, subject to the approval of the School of Mathematics, at the 4000 level or higher outside the School. The remaining eighteen hours required may be taken under a thesis option or under a non-thesis option. Under the thesis option, the program must include a thesis (nine thesis hours) and nine additional hours of coursework at the 4000 level or higher, six hours of which must be in mathematics at the 6000 level or higher. Under the non-thesis option, the program must include eighteen additional hours of coursework at the 4000 level or higher, with at least twelve hours at the 6000 level or higher in mathematics. Under the non-thesis option, the program must also include a concentration consisting of six hours of coursework at the 6000 level or higher in a field of mathematics chosen in consultation with the student's advisor, and a sufficient number of hours at the 6000 level or higher to ensure that the program includes a total of at least twenty-one hours at this level. Under either of these options, MATH 6701 and 6702, as well as all courses required by number for the Bachelor of Science in Applied Mathematics (MATH 3012, 3215, 4107, 4317, 4318, 4320, and 4640), do not carry degree credit for graduate mathematics majors and may not be used to fulfill these degree requirements.

Students must maintain an overall grade point average of at least 3.0 and receive a *C* or better in each mathematics course in the program of study.

Before admission to candidacy for the master's degree, each student must pass either a master's oral comprehensive examination or the written portion of the mathematics doctoral comprehensive examination.

Master of Science in Quantitative and Computational Finance

The Master of Science degree program in Quantitative and Computational Finance (M.S.Q.C.F.) is a multidisciplinary program under the provost of the Georgia Institute of Technology, with home units in the College of Management, the School of Mathematics, and the School of Industrial and Systems Engineering.

The main objective of the M.S.Q.C.F. degree program is to provide students with the practical skills and theoretical understanding they need to be leaders in the formulation, implementation, and evaluation of the models used by the financial sector to structure transactions, manage risk, and construct investment strategies.

The M.S.Q.C.F. program is well structured both to cover the fundamentals needed to understand and model a wide variety of problems in finance, and to allow specialization to build expertise in specific approaches, techniques, and problem areas. For the fundamentals, the M.S.Q.C.F. program emphasizes both foundational concepts within finance and also the principles and techniques needed for the formulation, implementation, and testing of financial models. The program is not just centered on one type of problem; students develop expertise for a range of career paths that use quantitative and computational reasoning. For their area of specialization, students are encouraged to develop expertise that draws on the strengths present in the many related quantitative, computational, and mathematical areas present at Georgia Tech.

The prerequisites of the M.S.Q.C.F. program include:

1. interest in the problems of finance, and a high level of mathematical ability that has been demonstrated within past performance on appropriate coursework and standardized testing;
2. mathematical background - a working knowledge of calculus (differential and integral calculus of one variable, multivariate calculus, fundamentals of linear algebra and linear systems of equations, and differential equations) and undergraduate calculus-based probability and statistics;
3. basic programming background - basic knowledge of a programming language such as MatLab programming, Visual Basic, C, or Fortran; and
4. Institute and academic unit requirements for admission to graduate study.

M.S. in Quantitative and Computational Finance Curriculum Requirements

Required Core Courses (eighteen semester hours)

MGT 6078 Finance and Investments
MGT 6081 Derivative Securities
MATH 6635 Numerical Methods in Finance
ISYE/MATH 6759 Stochastic Processes in Finance I
ISYE/MATH 6767 Design and Implementation of Systems to Support Computational Finance
ISYE/MATH/MGT 6769 Fixed Income Securities

Three semester hours from the following:

ISYE 6673 Financial Optimization Models
MATH 6235 Stochastic Processes in Finance II

MGT 6090 Management of Financial Institutions

Six semester hours from the following:

ISYE/MATH 6783 Statistical Techniques of Financial Data Analysis
ISYE/MATH/MGT 6785 The Practice of Quantitative and Computational Finance
MGT 7061 Empirical Finance

Nine semester hours of free electives at the 6000 level or higher

Total semester hours: Thirty-six

For the nine semester hours of free electives at the 6000 level or higher, students choose at least three additional electives from the electives categories or from other courses. Students are encouraged to choose electives to develop expertise within a specific area such as statistical data analysis, economic analysis, finance, risk management/optimization, or model implementation. It is strongly recommended that students who do not have previous coursework in economics take ECON 6100 Economic Analysis for Managers (or its equivalent).

Master of Science in Statistics

The School of Mathematics offers the degree of Master of Science in Statistics (M.S.S.) in cooperation with the School of Industrial and Systems Engineering. It is available for applicants having the B.S. in mathematics; students with engineering backgrounds should enter the same program through the School of Industrial and Systems Engineering. Prerequisites include work in probability, statistics, linear algebra, calculus, and optimization. The program requires thirty semester hours of coursework. There is no thesis option.

Doctoral Program in Algorithms, Combinatorics, and Optimization

One of the most rapidly growing areas of research in applied mathematics, computer science, and operations research has been dealing with discrete structures. This has been most evident in the fields of combinatorics, discrete optimization, and the analysis of algorithms. Increasingly, work in each of these subjects has come to depend on knowledge of all of them. Indeed, many of the most significant advances have resulted from the efforts of researchers in more than one, if not all three, of these areas.

In response to these developments, Georgia Tech has introduced a doctoral degree program in Algorithms, Combinatorics, and Optimization (ACO). This multidisciplinary program is sponsored jointly by the School of Mathematics, the School of Industrial and Systems Engineering, and the College of Computing. Faculty for the program are drawn from these three sponsoring units, as well as from the School of Electrical and Computer Engineering and the College of Management.

The ACO program is arranged to bring together the study of discrete structures and the design and analysis of algorithms in areas such as graph theory, integer programming, combinatorial optimization, and polyhedral theory. It is intended for students possessing a strong background in one or more of the fields represented by the three sponsoring units. Each student in the program has a single home department chosen from the School of Mathematics, the School of Industrial and Systems Engineering, and the College of Computing. Courses for the program are drawn from all three of these units, and include study in such areas as combinatorial methods, algebraic structures, probability, the analysis of algorithms, computational complexity, linear programming, discrete optimization, and convex analysis.

Doctoral Program in Bioinformatics

Participating Schools

College of Computing
School of Biomedical Engineering
School of Industrial and Sytems Engineering
School of Biology
School of Chemistry and Biochemistry
School of Mathematics

Objective of the program

The mission of the Georgia Tech Bioinformatics Ph.D. program is to educate and prepare graduate students to reach the forefront of leadership in the field of bioinformatics and computational biology, and to integrate research and education on the use of information technologies in biology and medicine. Thus, the program leading to a Ph.D. in Bioinformatics is an interdisciplinary program spanning a variety of academic departments at Georgia Tech.

Bioinformatics is a multidisciplinary field in which physical sciences, life sciences, computer science, and engineering are merged to solve both fundamental and applied problems in biology and medicine. The outcomes of bioinformatics and computational biology particularly include:

1. new and global perspectives into the organization and function of biological systems (fundamental biology);
2. new and novel targets for drug discovery and development; and
3. genetic/proteomic profiling for pharmaco-genomics or personalized medicine.

Thus, bioinformatics is emerging as a strategic discipline at the frontier of biology, biochemistry, biomedicine, bioengineering, computer science, and mathematics, impacting fundamental science, medicine, biotechnology, and society.

With its broad mission statement, this program at Georgia Tech has the following focus/strength areas:

1. Development of software tools, algorithms, and databases for gene identification, protein structural prediction, clustering analysis, and data mining
2. Application of bioinformatics to disease diagnosis, classification, prognosis, and treatment
3. Application of bioinformatics to fundamental biology and systems biology

There is an increasing demand for scientists with advanced training in bioinformatics. Professionals in this area should have a thorough knowledge of molecular biology, mathematics, and statistics, as well as computer science and engineering.

For more information visit **www.biology.gatech.edu/bioinformatics/bioinformatics_phd.htm**.

Doctoral Program in Mathematics

The doctoral program in Mathematics requires fifty-one hours of coursework, with grades of C or better, beyond the undergraduate degree. At least thirty-six hours, chosen to the satisfaction of the student's research advisor and the School's Graduate Committee, must be taken at the 6000 level in mathematics, and a further nine hours must be taken outside the School of Mathematics at the 4000 level or higher in the student's minor field of study. The program must also include six additional hours at the 6000 level. Work on a master's thesis (thesis hours) may not be counted toward any of the fifty-one hours specified above, but coursework for the master's degree may be counted. At least six hours of the minor should be completed within three years of the student's admission to the doctoral program.

Prior to admission to candidacy for the doctoral degree, each student must pass the comprehensive examination, which consists of a written examination in real analysis and algebra and an oral examination in the student's proposed area of specialization. Doctoral students must also satisfy the Institute requirements with respect to the dissertation and final oral examination.

Center for Dynamical Systems and Nonlinear Studies

As part of the research and graduate programs in the School of Mathematics, the Center for Dynamical Systems and Nonlinear Studies sponsors distinct but interrelated activities in dynamical systems, differential equations, and algebra and applications. The Center, directed by Professor Konstantin Mischaikow, offers postdoctoral and visiting faculty appointments as well as financial aid to graduate students affiliated with the Center.

Southeastern Applied Analysis Center

Georgia Tech's Southeastern Applied Analysis Center, directed by Professor Leonid Bunimovich, is a regional resource for research and education in applied mathematics, and for outreach to industry. The Center sponsors regional and international conferences and organizes focused research in many areas of mathematics and applications.

School of Physics - General Information

Established in 1939
Location: Howey Building
Telephone: 404.894.5201
Fax: 404.894.9958
Web site: **www.physics.gatech.edu**

General Information

Physics is primarily a basic science, and fundamental research into the principles of physics continues to occupy the attention of many physicists. The study of physics also has become increasingly important as a basis for fundamental research in interdisciplinary areas such as biophysics, chemical physics, and materials science, and as an applied science in government and industrial labs. Furthermore, as society becomes more technically oriented, an education in physics can provide an advantageous pre-professional foundation.

The School of Physics offers basic service courses to freshmen and sophomores, some advanced service courses for students in other units of the Institute, and advanced studies leading to the bachelor's, master's, and Ph.D. degrees in physics. The School seeks to provide elective freedom in its degree programs in order to enable students with a wide variety of goals to construct programs of study suitable for them.

In addition to offering courses in the fundamentals of physics, the School provides numerous specialized courses at all levels, particularly in those areas related to the research interests of the faculty. These areas of research currently include: atomic, molecular, and chemical physics; biophysics; computational materials science; nonlinear mechanics and chaos; nuclear and particle physics; optics and laser physics; condensed matter physics; quantum computing; relativity; statistical mechanics; physics instruction; and interdisciplinary areas of biophysics and materials science. Opportunities exist in all these areas and in other areas through collaboration with faculty of other schools and colleges for Special Problems courses, master's theses, and doctoral dissertations.

Supplementary program planning is available from the School of Physics. Opportunities for graduate study and research are also available at **www.physics.gatech.edu**.

Faculty

Chair and ADVANCE Professor

Mei-Yin Chou

Associate Chair for Graduate Programs and Professor

Andrew Zangwill

Associate Chair for Undergraduate Programs and Professor

Edward Conrad

Callaway Chair and Regents' and Institute Professor

Uzi Landman

Georgia Research Alliance Eminent Scholar Chair and Professor

Rick Trebino

Glen Robinson Chair and Professor

Predrag Cvitanovic

Regents' Professors

M. Ray Flannery, Ronald Fox, Turgay Uzer

Professors

Jean Bellissard, Michael Chapman, Walt deHeer, Ahmet Erbil, James Gole, T. A. Brian Kennedy, Kurt Wiesenfeld, John Wood, Li You

Adjunct Professor

Robert Whetten

Professors Emeriti

Tino Ahrens, Helmut Biritz, David Finkelstein, Ian Gatland, Don Harmer, Donald O'shea, Eugene Patronis, Edward Thomas, Henry Valk, R. A. Young

Associate Professors

Phillip First, Carlos Sa de Melo, Michael Schatz

Cullen-Peck Assistant Professor

Alex Kuzmich

Assistant Professors

Dragomir Davidovic, Roman Grigoriev, Alexei Marchenkov, Michael Pustilnik, Chandra Raman, Elisa Riedo

Senior Research Scientists

Robert Barnett, Eduard Bogachek, Charles Cleveland, Jianping Gao, W. David Luedtke, Constantine Yannouleas

Research Scientist II

Claire Berger, David Kulp, Bokwon Yoon

Research Scientist I

Galina Grom

Senior Academic Professionals

Andrew Scherbakov, James Sowell

Academic Professionals

Martin Jarrio, Eric Murray

Bachelor of Science in Physics

The School of Physics offers two undergraduate degrees, the Bachelor of Science in Physics and the Bachelor of Science in Applied Physics. The basis of the former degree is the traditional preparation of a student for graduate study in physics.

The degree program in applied physics may be better suited for entry into industry or government upon graduation, preparation for further professional training (medicine, law, dentistry, or business), or preparation for graduate study in some other discipline. The applied physics program differs from the traditional one in that a few courses intended primarily as preparation for graduate study in physics are replaced by courses oriented toward the applications of physics.

Each of the baccalaureate programs contains the following: a) courses needed to meet general institutional degree requirements; b) a core of technical courses intended to give a strong background in mathematics and the physical principles of mechanics, electricity and magnetism, thermodynamics, and the quantum theory that governs physical phenomena at the microscopic level of molecules, atoms, and nuclei; c) technical electives that enable the student to explore areas of his or her choice in greater depth; d) courses involving undergraduate research, and e) free electives, about fifteen percent of the total hours, which may be employed to schedule additional technical or nontechnical courses.

The considerable flexibility inherent in the physics curricula is advantageous to students who wish to work out individual programs of study. At the same time, this flexibility suggests the need for consultation with advisors so students can make the best use of elective hours and avoid scheduling difficulties that may arise in later semesters. Students may utilize their elective freedom in the physics curricula to specialize in particular areas of physics, to prepare for careers in interdisciplinary areas of science, to compose a pre-professional program, or to gain a background in other technical or nontechnical disciplines. To assist students in planning programs of study with emphasis directed toward a particular objective, the School has formulated suggestions for the use of elective hours. Supplementary materials, available from the School office, include suggestions relevant to the following areas of study: preparation for graduate study in physics; acoustics; applied optics; atomic, molecular, and chemical physics; biophysics; computational physics; nonlinear dynamics and chaos; solid state physics; and preparation for teaching secondary education. Attention is also directed to the possibility of using elective hours for undergraduate research (PHYS 2699 or 4699) conducted under the supervision of a faculty member.

Since some students who earn a degree in physics have transferred from other disciplines, the School has planned its degree programs to enable most students to transfer into physics with little or no loss of credit.

A total of 120 credit hours (exclusive of wellness) and a grade point average of at least 2.0 in physics courses numbered 3000 and higher are requisites for the bachelor's degree in physics.

BACHELOR OF SCIENCE IN PHYSICS

2006 - 2007 DEGREE REQUIREMENTS

School Of Physics

Suggested Schedule

FIRST YEAR-FALL	HRS
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	HRS
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	HRS
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
SOCIAL SCIENCE ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2213 INTRODUCTION TO MODERN PHYSICS	3
PHYS 3201 CLASSICAL MECHANICS I	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	HRS
PHYS 3143 QUANTUM MECHANICS I	3
PHYS 3122 ELECTROSTATICS & MAGNETOSTATICS	3
PHYSICS or TECHNICAL ELECTIVE(S)	6
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	HRS
PHYS 3141 THERMODYNAMICS	3
PHYS 3123 ELECTRODYNAMICS	3
PHYSICS or TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-FALL	HRS
PHYS 4321 ADVANCED LAB I	3
PHYS 4142 STATISTICAL MECHANICS	3
PHYSICS or TECHNICAL ELECTIVE(S)	3
PHYS 4601 SENIOR SEMINAR I	1
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
PHYS 4143 QUANTUM MECHANICS II	3
PHYS 4602 SENIOR SEMINAR II	1
PHYSICS or TECHNICAL ELECTIVE(S)	5
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Physics and Technical Electives

These include physics courses and selected courses in other disciplines. At most, six hours may be below the 3000 level. These must include at least one lab-based physics course (other than PHYS 4321) at the 3000 level or above.

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Physics

Students who have demonstrated competence in mathematics are encouraged to substitute the honors sequence, PHYS 2231-2, for PHYS 2211-2.

Bachelor of Science in Applied Physics

The School of Physics offers two undergraduate degrees, the Bachelor of Science in Physics and the Bachelor of Science in Applied Physics. The basis of the former degree is the traditional preparation of a student for graduate study in physics.

The degree program in applied physics may be better suited for entry into industry or government upon graduation, preparation for further professional training (medicine, law, dentistry, or business), or preparation for graduate study in some other discipline. The applied physics program differs from the traditional one in that a few courses intended primarily as preparation for graduate study in physics are replaced by courses oriented toward the applications of physics.

Each of the baccalaureate programs contains the following: a) courses needed to meet general institutional degree requirements; b) a core of technical courses intended to give a strong background in mathematics and the physical principles of mechanics, electricity and magnetism, thermodynamics, and the quantum theory that governs physical phenomena at the microscopic level of molecules, atoms, and nuclei; c) technical electives that enable the student to explore areas of his or her choice in greater depth; d) courses involving undergraduate research, and e) free electives, about fifteen percent of the total hours, which may be employed to schedule additional technical or nontechnical courses.

The considerable flexibility inherent in the physics curricula is advantageous to students who wish to work out individual programs of study. At the same time, this flexibility suggests the need for consultation with advisors so students can make the best use of elective hours and avoid scheduling difficulties that may arise in later semesters. Students may utilize their elective freedom in the physics curricula to specialize in particular areas of physics, to prepare for careers in interdisciplinary areas of science, to compose a pre-professional program, or to gain a background in other technical or nontechnical disciplines. To assist students in planning programs of study with emphasis directed toward a particular objective, the School has formulated suggestions for the use of elective hours. Supplementary materials, available from the School office, include suggestions relevant to the following areas of study: preparation for graduate study in physics; acoustics; applied optics; atomic, molecular, and chemical physics; biophysics; computational physics; nonlinear dynamics and chaos; solid state physics; and preparation for teaching secondary education. Attention is also directed to the possibility of using elective hours for undergraduate research (PHYS 2699 or 4699) conducted under the supervision of a faculty member.

Since some students who earn a degree in physics have transferred from other disciplines, the School has planned its degree programs to enable most students to transfer into physics with little or no loss of credit.

A total of 120 credit hours (exclusive of wellness) and a grade point average of at least 2.0 in physics courses numbered 3000 and higher are requisites for the bachelor's degree in physics.

BACHELOR OF SCIENCE IN APPLIED PHYSICS
2006 - 2007 DEGREE REQUIREMENTS
School Of Physics
Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
MATH 1501 CALCULUS I	4
CHEM 1310 GENERAL CHEMISTRY	4
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**14**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
PHYS 2211 INTRODUCTORY PHYSICS I	4
CS 1301 INTRODUCTION TO COMPUTING	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

SECOND YEAR-FALL	**HRS**
MATH 2401 CALCULUS III	4
PHYS 2212 INTRODUCTORY PHYSICS II	4
SOCIAL SCIENCE ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
MATH 2403 DIFFERENTIAL EQUATIONS	4
PHYS 2213 INTRODUCTION TO MODERN PHYSICS	3
PHYS 3201 CLASSICAL MECHANICS I	3
SOCIAL SCIENCE ELECTIVE(S)	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
PHYS 3143 QUANTUM MECH I	3
PHYS 3122 ELECTROSTATICS & MAGNETOSTATICS	3
PHYSICS or TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**14**

THIRD YEAR-SPRING	**HRS**
PHYS 3141 THERMODYNAMICS	3
PHYS 3123 ELECTRODYNAMICS	3
PHYSICS or TECHNICAL ELECTIVE(S)	3
PHYS 3266 COMPUTATIONAL PHYSICS	4
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	**HRS**
PHYS 4321 ADVANCED LAB I	3
PHYS 3211 ELECTRONICS I	5
PHYS 4601 SENIOR SEMINAR I	1
PHYSICS or TECHNICAL ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**15**

FOURTH YEAR-SPRING	**HRS**
PHYS 4206 ELECTRONICS II	5
PHYSICS or TECHNICAL ELECTIVE(S)	5
PHYS 4602 SENIOR SEMINAR II	1
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**14**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Physics and Technical Electives

These include physics courses and selected courses in other disciplines. At most, six hours may be below the 3000 level. These must include at least one lab-based physics course (other than PHYS 4321) at the 3000 level or above.

Humanities/Social Sciences Electives

ENGL 1101 and 1102 apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement. To satisfy the **state requirements** regarding coursework in the history and constitutions of the United States and Georgia, students must complete one of the following courses: HIST 2111, HIST 2112, POL 1101, PUBP 3000, or INTA 1200. One of these courses, combined with an additional nine hours of **Institute-approved social science courses**, satisfies the twelve-hour social sciences requirement.

Physics

Students who have demonstrated competence in mathematics are encouraged to substitute the honors sequence, PHYS 2231-2, for PHYS 2211-2.

Business Option

Students pursuing a B.S. in Physics or Applied Physics as a terminal degree may find the Business Option advantageous. This option uses six hours of social science credits for PSYC 2220 and ECON 2106 and nine hours of free electives for MGT 3000, MGT 3300, and MGT 3150. Students using another three hours of free electives, may replace MGT 3150 with a combination of MGT 3062 and either MGT 3076, MGT 4191, or MGT 4670.

Master of Science in Physics

The Master of Science in Physics degree requires thirty hours of physics course credit. These hours must include six hours of 8000-level Special Problems or Master's Practicum research (with a physics faculty member) and the following six graduate physics courses:

1. PHYS 6101 Classical Mechanics I (3)
2. PHYS 6103 Electromagnetism I (3)
3. PHYS 6104 Electromagnetism II (3)
4. PHYS 6105 Quantum Mechanics I (3)
5. PHYS 6106 Quantum Mechanics II (3)
6. PHYS 6107 Statistical Mechanics (3)

The remaining six credit hours may be earned from either: a) physics lecture courses at the 4000 level or higher; or b) graduate courses at the 6000 level or higher from a school other than physics.

Master of Science in Applied Physics

The Master of Science in Applied Physics degree requires thirty hours of physics course credit. These hours must include six hours of 8000-level Special Problems or Master's Practicum research (with a physics faculty member) and the following six graduate physics courses:

1. PHYS 6101 Classical Mechanics I (3)
2. PHYS 6103 Electromagnetism I (3)
3. PHYS 6104 Electromagnetism II (3)
4. PHYS 6105 Quantum Mechanics I (3)
5. PHYS 6106 Quantum Mechanics II (3)
6. PHYS 6107 Statistical Mechanics (3)

The remaining six credit hours may be earned from either: a) physics lecture courses at the 4000 level or higher; or b) graduate courses at the 6000 level or higher from a school other than physics.

Doctoral Program in Physics

The Ph.D. degree in physics requires: 1) admission to candidacy; 2) a program of study in core and advanced physics courses; 3) a minor course of study; and 4) successful defense of the Ph.D. thesis.

Students are admitted to candidacy when they have 1) passed the Comprehensive Exam: 2) selected a Thesis Reading Committee; and 3) submitted a thesis proposal to the graduate coordinator. To ensure adequate preparation for the Comprehensive Exam, the School strongly recommends that the first year of graduate study be devoted to coursework as follows:

First Semester

1. PHYS 6101 Classical Mechanics I (3)
2. PHYS 6103 Electromagnetism I (3)
3. PHYS 6105 Quantum Mechanics I (3)
4. PHYS 6124 Mathematical Methods of Physics I (3)

Second Semester

1. PHYS 6107 Statistical Mechanics I (3)
2. PHYS 6104 Electromagnetism II (3)
3. PHYS 6106 Quantum Mechanics II (3)
4. PHYS 8901 Special Problems (3)

The School requires every doctoral student to take three lecture-type graduate physics courses not including those previously listed. In some cases, these may be used to satisfy the Institute requirement that every doctoral student earn nine credit hours in a minor course of study in a scientific subfield different from the subfield of his or her Ph.D. thesis research. Alternatively, these credit hours are earned in a school other than physics. Finally, each student must prepare a written dissertation that summarizes the Ph.D. research and present a public, oral defense of the dissertation to a Thesis Exam Committee.

School of Psychology

Established in 1959
Location: J.S. Coon Building
Telephone: 404.894.2680 or 404.894.2683
Fax: 404.894.8905
Web site: **www.psychology.gatech.edu**

General Information

The School of Psychology offers programs of study leading to the Bachelor of Science in Applied Psychology and the Master of Science and Doctor of Philosophy in Psychology. It also offers training in the basic and applied aspects of the science of behavior for the student majoring in architecture, engineering, management, and natural sciences. The undergraduate curriculum provides a broad-based natural science approach to the study of psychology. Courses in mathematics, biology, and chemistry, for instance, complement the psychology courses. The curriculum also stresses methodological issues so that students learn the fundamentals for carrying out solid research.

Faculty

Chair and Professor

Randall Engle

Associate Chair and Associate Professor

Gregory M. Corso

Professor Emeritus

Edward H. Loveland, Stanley A. Mulaik, M. Carr Payne Jr. (emeritus)

Regents' Professor

Anderson D. Smith

Professors

Phillip L. Ackerman, Fredda Blanchard-Fields, Susan Embretson, Jack M. Feldman, Arthur D. Fisk, Christopher K. Hertzog, Larry James, Ruth Kanfer, Terry L. Maple, M. Jackson Marr, Wendy Rogers

Associate Professors

Richard Catrambone, Elizabeth T. Davis, Zenzi Griffin

Assistant Professors

Paul Corballis, Eric Schumacher, Daniel Spieler, Bruce Walker

Instructors

Dianne Leader,

Adjunct Professors

Dorritt Billman, Mollie Bloomsmith, Kristin Boyle, Theodore J. Doll, Debra L. Forthman, Leonard W. Poon, Tara Stoinski

Bachelor of Science in Applied Psychology

The curriculum is technically oriented and stresses quantitative and experimental approaches to the study of behavior. The undergraduate curriculum is based on a strong emphasis in the sciences and mathematics and provides an excellent preparation for graduate school in psychology, medical school, law school, and other professional and academic graduate programs. In addition, many students with the B.S. degree in psychology choose to enter a variety of fields, including computer software design, human resources, marketing, human factors, system design, personnel selection and training, and management.

BACHELOR OF SCIENCE IN APPLIED PSYCHOLOGY
2006 - 2007 DEGREE REQUIREMENTS
School Of Psychology
Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
BIO 1510 BIOLOGICAL PRINCIPLES	4
MATH 1501 CALCULUS I	4
PSYC 1101 GENERAL PSYCHOLOGY	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
BIO 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
MATH 1502 CALCULUS II	4
PSYC 2103 HUMAN DEVELOPMENT OVER THE LIFE SPAN	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	**HRS**
CHEMISTRY / PHYSICS ELECTIVE(S)	4
ISYE 2027 PROBABILITY WITH APPLICATIONS	3
PSYC 2015 RESEARCH METHODS	4
PSYC 2210 SOCIAL PSYCHOLOGY	3
CS 1301 INTRODUCTION TO COMPUTING OR CS 1371 COMPUTING FOR ENGINEERS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
CHEMISTRY / PHYSICS ELECTIVE(S)	4
ELECTIVE(S)	3
PSYC 2020 PSYCHOLOGICAL STATISTICS	3
FREE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
PSYC 3011 COGNITIVE PSYCHOLOGY	4
PSYC 3020 BIOPSYCHOLOGY	3
PSYCHOLOGY ELECTIVE(S)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	**HRS**
PSYC 3031 EXPERIMENTAL ANALYSIS OF BEHAVIOR	4
PSYCHOLOGY ELECTIVE(S)	6
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

*** NON THESIS OPTION ***

FOURTH YEAR-FALL	**HRS**
FREE ELECTIVE(S)	9
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

FOURTH YEAR-SPRING	**HRS**
PSYC 4031 APPLIED EXPERIMENTAL PSYCHOLOGY	4
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**13**

***THESIS OPTION ***

FOURTH YEAR-FALL	**HRS**
PSYC 4600 SENIOR THESIS I	3
FREE ELECTIVE(S)	6
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**12**

FOURTH YEAR-SPRING	**HRS**
PSYC 4601 SENIOR THESIS II	4
FREE ELECTIVE(S)	9
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Fine Arts

Twelve hours, ENGL 1101 and 1102, apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement.

Social Science

Twelve hours, including three hours of **Constitution and History**; PSYC 1101 and PSYC 2015 count toward the twelve hours

Science / Mathematics

1. Chemistry/Physics (eight hours): either one year of chemistry (1310, 1311, 1312) or one year of physics (2211, 2212) or one semester of each
2. Biology (eight hours): BIOL 1510, 1520
3. Computer Science (three hours): CS 1301 or CS 1371
4. Mathematics (eleven hours): one year of calculus (1501, 1502) plus either a third mathematics course (see psychology Web page for allowable courses) or CS 1331

Preliminary Courses

1. PSYC 1101 General Psychology (3-0-3)
2. PSYC 2015 Research Methods in Psychology (with lab) (3-3-4)
3. PSYC 2020 Psychological Statistics (with lab) (3-3-4)
4. ISYE 2027 Probability with Applications (3-0-3)

Required Courses

1. PSYC 2103 Human Development (3-0-3)
2. PSYC 2210 Social Psychology (3-0-3)
3. PSYC 3011 Cognitive Psychology (with lab) (3-3-4)

4. PSYC 3020 Biopsychology (3-0-3)
5. PSYC 3031 Experimental Analysis of Behavior. (with lab) (3-3-4)

Required Capstone Course

1. PSYC 4031 Applied Experimental Psychology (with lab) (3-3-4) or
2. PSYC 4601 Senior Thesis II (1-9-4)

Elective Courses (at least four must be taken)

1. PSYC 2220 Industrial/Organizational Psychology (3-0-3)
2. PSYC 2230 Abnormal Psychology (3-0-3)
3. PSYC 2240 Personality Theory (3-0-3)
4. PSYC 2270 Engineering Psychology (3-0-3)
5. PSYC 3040 Sensation and Perception (3-0-3)
6. PSYC 3060 Comparative Psychology (3-0-3)
7. PSYC 3790 Introduction to Cognitive Science (3-0-3) (crosslisted with CS & ISYE)
8. PSYC 4010 Human Abilities (3-0-3)
9. PSYC 4050 History and Systems (3-0-3)
10. PSYC 4090 Cognitive Neuroscience (3-0-3)
11. PSYC 4100 Behavioral Pharmacology (3-0-3)
12. PSYC 4200 Advanced Topics in Cognitive Psychology (3-0-3)
13. PSYC 4260 Psychology of Aging (3-0-3)
14. PSYC 4270 Psychological Testing (3-0-3)
15. PSYC 4310 Field Studies in Animal Behavior I (1-6-3)
16. PSYC 4320 Field Studies in Animal Behavior II (1-6-3)
17. PSYC 4600 Senior Thesis I
18. PSYC 4770 Psychology and Environmental Design (2-3-3)
19. PSYC 4801-4 Special Topics (3-0-3) [permission of instructor & junior/senior standing] [Only a total of three hours may be applied toward the psychology elective.]
20. PSYC 4900-10 Special Problems (credit hours arranged) [permission of instructor junior/ senior standing]

Only a total of three hours may be applied toward the psychology elective.

Other Psychology Classes that May be Offered But Will Not Satisfy the Major Requirements (i.e., they can be free electives only)

1. PSYC 2300 Psychology of Advertising (3-0-3)
2. PSYC 2901-2903 Special Problems (arranged hours) [permission of instructor]
3. PSYC 2400 Psychology and Contemporary Issues in Society (3-0-3)
4. PSYC 3750 Human-Computer Interface Design & Evaluation (crosslisted w/CS) (3-0-3)
5. PSYC 4790 Seminar in Cognitive Science (with lab) (crosslisted with CS & ISYE) (3-0-3)
6. PSYC 4791 Integrative Project in Cognitive Science (3-0-3)
7. PSYC 4792 Design Project in Cognitive Science (3-0-3)

Premedical Preparation

Premedical students must take chemistry (CHEM 1310, 1311) ANS physics (PHYS 2211, 2212). In addition, premedical students must take EITHER CHEM 1312 (Inorganic Laboratory) OR 1313 (Introduction to Quantitative Methods) AND CHEM 2311 (Organic I), 2312 (Organic II), AND 2380 (Synthesis Laboratory I).

Business/Management Option

For a psychology major to complete the Business/ Management option, he or she must take the following courses:

Required

1. ECON 2106 Principles of Microeconomics (3)
2. MGT 3000 Accounting for Decision Making (3)
3. MGT 3300 Marketing Management I (3)
4. PSYC 2220 Industrial/Organizational Psychology (3)

Electives (One course from list below must be taken)

1. MGT 3150 Principles of Management (3)
2. MGT 3310 Marketing Research: Qualitative Aspects
3. MGT 4191 The Entrepreneurship Forum (3)
4. MGT 4331 Consumer Behavior

Bachelor of Science in Applied Psychology (Business Option)

The curriculum is technically oriented and stresses quantitative and experimental approaches to the study of behavior. The undergraduate curriculum is based on a strong emphasis in the sciences and mathematics and provides an excellent preparation for graduate school in psychology, medical school, law school, and other professional and academic graduate programs. In addition, many students with the B.S. degree in psychology choose to enter a variety of fields including computer software design, human resources, marketing, human factors, system design, personnel selection and training, and management.

Business/Management Option

For a psychology major to complete the Business/ Management option, he or she must take the following courses:

Required

1. ECON 2106 Principles of Microeconomics (3)
2. MGT 3000 Accounting for Decision Making (3)
3. MGT 3300 Marketing Management I (3)
4. PSYC 2220 Industrial/Organizational Psychology (3)

Electives (One course from list below must be taken)

1. MGT 3150 Principles of Management (3)
2. MGT 3310 Marketing Research: Qualitative Aspects
3. MGT 4191 The Entrepreneurship Forum (3)
4. MGT 4331 Consumer Behavior

BACHELOR OF SCIENCE IN APPLIED PSYCHOLOGY
BUSINESS OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Psychology

Suggested Schedule

FIRST YEAR-FALL	HRS
BIOL 1510 BIOLOGICAL PRINCIPLES	4
ENGL 1101 ENGLISH COMPOSITION I	3
WELLNESS	2
MATH 1501 CALCULUS I	4
PSYC 1101 GENERAL PSYCHOLOGY	3
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	HRS
BIOL 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
ENGL 1102 ENGLISH COMPOSITION II	3
MATH 1502 CALCULUS II	4
PSYC 2103 HUMAN DEVELOPMENT OVER THE LIFE SPAN	3
TOTAL SEMESTER HOURS =	**14**

SECOND YEAR-FALL	HRS
CHEMISTRY / PHYSICS ELECTIVE(S)	4
HUMANITIES ELECTIVE(S)	3
CS 1301 INTRODUCTION TO COMPUTING OR CS 1371 COMPUTING FOR ENGINEERS	3
2015 RESEARCH METHODS IN PSYCHOLOGY	4
PSYC 2210 SOCIAL PSYCHOLOGY	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	HRS
CHEMISTRY / PHYSICS ELECTIVE(S)	4
PSYC 2220 INDUSTRIAL / ORGANIZATIONAL PSYCHOLOGY	4
PSYC 2020 PSYCHOLOGICAL STATISTICS	4
FREE ELECTIVE(S)	2
SOCIAL SCIENCE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**17**

THIRD YEAR-FALL	HRS
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
PSYC 3011 COGNITIVE PSYCHOLOGY	4
PSYC 3020 BIOPSYCHOLOGY	3
FREE ELECTIVE(S)	3
ECON 2106 PRINCIPLES OF MICROECONOMICS	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-SPRING	HRS
MATH or COMPUTER SCIENCE REQUIREMENT	3
PSYC 3031 EXPERIMENTAL ANALYSIS OF BEHAVIOR	4
PSYCHOLOGY ELECTIVE(S)	3
FREE ELECTIVE(S)	3
MGT 3000 ACCOUNTING FOR DECISION MAKING	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	HRS
PSYCHOLOGY ELECTIVE(S)	6
FREE ELECTIVE(S)	1
HUMANITIES ELECTIVE(S)	3
MGT 3300 MARKETING MANAGEMENT I	3

TOTAL SEMESTER HOURS =	**13**

FOURTH YEAR-SPRING	**HRS**
PSYCHOLOGY CAPSTONE COURSE	4
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
MGT 3150 or 3310 or 4191 or 4331	3
TOTAL SEMESTER HOURS =	**13**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Bachelor of Science in Applied Psychology - Research Option

The curriculum is technically oriented and stresses quantitative and experimental approaches to the study of behavior. The undergraduate curriculum is based on a strong emphasis in the sciences and mathematics and provides an excellent preparation for graduate school in psychology, medical school, law school, and other professional and academic graduate programs. The Research Plan in the School of Psychology provides additional research experience for those students seeking to continue their education in graduate school.

BACHELOR OF SCIENCE IN APPLIED PSYCHOLOGY
RESEARCH OPTION
2006 - 2007 DEGREE REQUIREMENTS
School Of Psychology
Suggested Schedule

FIRST YEAR-FALL	**HRS**
ENGL 1101 ENGLISH COMPOSITION I	3
BIO 1510 BIOLOGICAL PRINCIPLES	4
MATH 1501 CALCULUS I	4
PSYC 1101 GENERAL PSYCHOLOGY	3
WELLNESS	2
TOTAL SEMESTER HOURS =	**16**

FIRST YEAR-SPRING	**HRS**
ENGL 1102 ENGLISH COMPOSITION II	3
BIO 1520 INTRODUCTION TO ORGANISMAL BIOLOGY	4
MATH 1502 CALCULUS II	4
PSYC 2103 HUMAN DEVELOPMENT OVER THE LIFE SPAN	3
HIST 2111 or 2112 or POL 1101 or PUBP 3000 or INTA 1200	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-FALL	**HRS**
CHEMISTRY / PHYSICS ELECTIVE(S)	4
ISYE 2027 PROBABILITY WITH APPLICATIONS	3
PSYC 2015 RESEARCH METHODS	4
PSYC 2210 SOCIAL PSYCHOLOGY	3
CS 1301 INTRODUCTION TO COMPUTING OR CS 1371 COMPUTING FOR ENGINEERS	3
TOTAL SEMESTER HOURS =	**17**

SECOND YEAR-SPRING	**HRS**
CHEMISTRY / PHYSICS ELECTIVE(S)	4
PSYCOLOGY ELECTIVE(S)	3
PSYC 2020 PSYCHOLOGICAL STATISTICS	3
FREE ELECTIVE	3
HUMANITIES ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

THIRD YEAR-FALL	**HRS**
PSYC 3011 COGNITIVE PSYCHOLOGY	4
PSYC 3020 BIOPSYCHOLOGY	3
PSYCHOLOGY ELECTIVE(S)	3
FREE ELECTIVE(S)	5
TOTAL SEMESTER HOURS =	**15**

THIRD YEAR-SPRING	**HRS**
PSYC 3031 EXPERIMENTAL ANALYSIS OF BEHAVIOR	4
PSYC 4698 UNDERGRADUATE RESEARCH ASSISTANTSHIP or PSYC 4699 UNDERGRADUATE RESEARCH	3
PSYCHOLOGY ELECTIVE(S)	3
SOCIAL SCIENCE ELECTIVE(S)	3
FREE ELECTIVE(S)	3
TOTAL SEMESTER HOURS =	**16**

FOURTH YEAR-FALL	**HRS**
PSYC 4600 SENIOR THESIS I	3
FREE ELECTIVE(S)	7
HUMANITIES ELECTIVE(S)	3

TOTAL SEMESTER HOURS =	**13**

FOURTH YEAR-SPRING	**HRS**
Psyc 4601 Senior Thesis II	4
LCC 4700 Undergraduate Thesis Writing	2
FREE ELECTIVE(S)	6
TOTAL SEMESTER HOURS =	**12**

TOTAL PROGRAM HOURS = 120 SEMESTER HOURS PLUS WELLNESS (2 HOURS)

Electives

Wellness Requirement

All undergraduate students attending Georgia Tech must satisfactorily complete a wellness requirement (HPS 1040 or equivalent).

Humanities/Fine Arts

Twelve hours, ENGL 1101 and 1102, apply toward satisfaction of the twelve-hour humanities requirement. An additional six hours of **Institute-approved humanities courses** are required to fulfill the twelve-hour humanities requirement.

Social Science

Twelve hours, including three hours of **Constitution and History**; PSYC 1101 and PSYC 2015 count toward the twelve hours

Science / Mathematics

1. Chemistry/Physics (eight hours): either one year of chemistry (1310, 1311, 1312) or one year of physics (2211, 2212) or one semester of each
2. Biology (eight hours): BIOL 1510, 1520
3. Computer Science (three hours): CS 1301
4. Mathematics (eleven hours): one year of calculus (1501, 1502) plus either a third mathematics course (see psychology Web page for allowable courses) or CS 1331

Preliminary Courses

1. PSYC 1101 General Psychology (3-0-3)
2. PSYC 2015 Research Methods in Psychology (with lab) (3-3-4)
3. PSYC 2020 Psychological Statistics (with lab) (3-3-4)
4. ISYE 2027 Probability with Applications (3-0-3)

Required Courses

1. PSYC 2103 Human Development (3-0-3)
2. PSYC 2210 Social Psychology (3-0-3)
3. PSYC 3011 Cognitive Psychology (with lab) (3-3-4)

4. PSYC 3020 Biopsychology (3-0-3)
5. PSYC 3031 Experimental Analysis of Behavior (with lab) (3-3-4)
6. PSYC 2699/4699 Research hours (3-0-3)
7. PSYC 4600 Senior Thesis I
8. LCC 4700 Undergraduate Thesis Writing (2-0-2)

Required Capstone Course

1. PSYC 4601 Senior Thesis II (1-9-4)

Elective Courses (at least four must be taken)

1. PSYC 2220 Industrial/Organizational Psychology (3-0-3)
2. PSYC 2230 Abnormal Psychology (3-0-3)
3. PSYC 2240 Personality Theory (3-0-3)
4. PSYC 2270 Engineering Psychology (3-0-3)
5. PSYC 3040 Sensation and Perception (3-0-3)
6. PSYC 3060 Comparative Psychology (3-0-3)
7. PSYC 3790 Introduction to Cognitive Science (3-0-3) (crosslisted w/ CS & ISYE)
8. PSYC 4010 Human Abilities (3-0-3)
9. PSYC 4050 History and Systems (3-0-3)
10. PSYC 4090 Cognitive Neuroscience (3-0-3)
11. PSYC 4100 Behavioral Pharmacology (3-0-3)
12. PSYC 4200 Advanced Topics in Cognitive Psychology (3-0-3)
13. PSYC 4260 Psychology of Aging (3-0-3)
14. PSYC 4270 Psychological Testing (3-0-3)
15. PSYC 4310 Field Studies in Animal Behavior I (1-6-3)
16. PSYC 4320 Field Studies in Animal Behavior II (1-6-3)
17. PSYC 4600 Senior Thesis I
18. PSYC 4770 Psychology and Environmental Design (2-3-3)
19. PSYC 4801-4 Special Topics (3-0-3) [permission of instructor & junior/senior standing] [Only a

total of three hours may be applied toward the psychology elective.]

20. PSYC 4900-10 Special Problems (credit hours arranged) [permission of instructor junior/ senior standing]

Only a total of three hours may be applied toward the psychology elective.

Other Psychology Classes that May be Offered But Will Not Satisfy the Major Requirements (i.e., they can be free electives only)

1. PSYC 2300 Psychology of Advertising (3-0-3)
2. PSYC 2901->2903 Special Problems (arranged hours) [permission of instructor]
3. PSYC 2400 Psychology and Contemporary Issues in Society (3-0-3)
4. PSYC 3750 Human-Computer Interface Design & Evaluation (crosslisted w/CS) (3-0-3)
5. PSYC 4790 Seminar in Cognitive Science (with lab) (crosslisted w/ CS & ISYE) (3-0-3)
6. PSYC 4791 Integrative Project in Cognitive Science (3-0-3)
7. PSYC 4792 Design Project in Cognitive Science (3-0-3)

Premedical Preparation

Premedical students must take chemistry (CHEM 1310, 1311) ANS physics (PHYS 2211, 2212). In addition, premedical students must take EITHER CHEM 1312 (Inorganic Laboratory) OR 1313 (Introduction to Quantitative Methods) AND CHEM 2311 (Organic I), 2312 (Organic II), AND 2380 (Synthesis Laboratory I).

Business/Management Option

For a psychology major to complete the Business/ Management option, he or she must take the following courses:

Required

1. ECON 2106 Principles of Microeconomics (3)
2. MGT 3000 Accounting for Decision Making (3)
3. MGT 3300 Marketing Management I (3)
4. PSYC 2220 Industrial/Organizational Psychology (3)

Electives (One course from list below must be taken)

1. MGT 3150 Principles of Management (3)

2. MGT 3310 Marketing Research: Qualitative Aspects
3. MGT 4191 The Entrepreneurship Forum (3)
4. MGT 4331 Consumer Behavior

Certificates

The School of Psychology offers a number of certificate programs that provide similar opportunities for students to develop their expertise or acquire skills or information in specific areas in addition to their major area.

Certificates in Psychology

1. Certificate in Biopsychology
2. Certificate in Cognitive Psychology
3. Certificate in Engineering Psychology
4. Certificate in Experimental Psychology
5. Certificate in Industrial/Organizational Psychology
6. Certificate in Social/Personality Psychology

Minor in Psychology

A student may earn a Minor in Psychology by completing the following requirements.

Foundation courses:

4 hours PSYC 2015 - Research Methods
4 hours PSYC 2020 - Psychological Statistics (requires ISYE 2027 or equivalent as a prerequisite).

Advanced courses:

Twelve semester hours of Psychology courses at or above the 3000 level with the following restrictions:

Courses excluded:

Psyc 3031 Experimental Analysis of Behavior
Psyc 4031 Applied Experimental Psychology

Additional regulations (as stipulated by the office of the registrar):

1. No more than four semester hours of Special Topics courses may be used in a minor program.
2. Special Problem courses may not be used.
3. All courses must be completed at Georgia Tech
4. All courses must be taken on a letter grade basis and must be completed with an overall GPA of 2.0,

Total twenty credit hours.

Graduate Information

Doctoral candidates take a core curriculum in general psychology and quantitative methods. Doctoral candidates will complete all requirements for the master's degree, which includes writing a research thesis.

The doctoral program provides the student with an opportunity for advanced study in engineering, experimental (focus areas in cognitive science, cognitive aging, and animal behavior), industrial-organizational, or quantitative psychology. Each of these curricula consists of additional courses and programs of individual study and research beyond the core curriculum, which contribute to a strong background in general experimental psychology and the student's area of specialization. The doctoral program will ordinarily require at least four years for students who enter immediately after obtaining a bachelor's degree.

Admission to graduate study in psychology with full graduate standing in the School of Psychology requires the equivalent of an undergraduate major in psychology or a related field with courses in general and experimental psychology, as well as psychological statistics. All applicants should submit scores from the Graduate Record Examination.

The psychology faculty will consider admissions applications from competent students who have majored in subjects other than psychology.

Master of Science in Psychology

The School of Psychology does not accept students seeking a terminal master's degree. The master's degree prepares the student for continuation of graduate work toward a Ph.D. Most students require two to three calendar years to complete the master's degree.

Master of Science in Human - Computer Interaction

The Master of Science in Human-Computer Interaction (M.S.H.C.I.) at Georgia Tech is an interdisciplinary, collaborative effort of the College of Computing, the School of Psychology, and the School of Literature, Communication, and Culture, and is coordinated through the Graphics, Visualization, and Usability Center. The program provides students with the practical, interdisciplinary skills and theoretical understanding they will need to become leaders in the design, implementation, and evaluation of the computer interfaces of the future.

Students may apply to enter the program through any one of the three participating units, the choice of which usually reflects that student's intended area of specialization. All M.S.H.C.I. students take a common set of core courses, plus a set of additional courses that relate more to that student's area and particular needs.

Full details of the M.S.H.C.I. program are listed in the College of Computing section and on the GVU Center Web page. Note that all applications for admission to the program are collected by the GVU Center and forwarded to the relevant department for evaluation.

Doctoral Program in Engineering Psychology

The Engineering Psychology Ph.D. program focuses on understanding the capabilities and limitations of human performance from the perspective of perception, cognition, and movement control and applying this knowledge to the design of systems and environments that accommodate those capabilities and limitations.

Doctoral Program in Experimental Psychology

The Experimental Psychology Ph.D. program at Georgia Tech is the scientific study of the basic processes of behavior, with a quantitative emphasis. Faculty in the Experimental area perform research in a wide range of topics. Specific subareas are animal/behavioral psychology, cognitive aging, and cognitive psychology.

Doctoral Program in Industrial/Organizational Psychology

The Industrial/Organizational Psychology (I/O) program concentrates on research related to the psychology of work and the workplace. Students develop specialized I/O knowledge, skills, and experiences through an individually tailored program of seminars, elective courses participation in laboratory- and field-based research projects, and training in local organizations.

Center's Suggested Courses for Graduate Minor

To fulfill their graduate minor requirements, psychology graduate students may take an interdisciplinary sequence of courses suggested by the Graphics, Visualization, and Usability Center (see link below). Three different tracks of study are designed to provide a systematic overview of a given area: one specializing in graphics, another in visualization, and a third in usability.

Graduate Certificate in Cognitive Science

Cognitive science is an interdisciplinary research area spanning psychology, computer science, linguistics, and philosophy. The Certificate in Cognitive Science provides students with a structured set of courses from related disciplines. Psychology students usually sample artificial intelligence courses (from computer science) and human systems engineering courses (from industrial and systems engineering). Two interactive courses are specifically designed to give students a systematic exposure to cognitive science. Courses for the certificate can also function as the student's graduate minor.

Georgia Tech Savannah

Established in 1998
Location: 210 Technology Circle,
Savannah, GA 31407
Telephone: 912.966.7922
Fax: 912.966.7836
Web site: **www.gtsav.gatech.edu**

General Information

Initiated in 1998 with the offering of undergraduate degrees through the Georgia Tech Regional Engineering Program (GTREP), Georgia Tech Savannah was created to unite education, industry, and technology in Georgia's Southeast region. Continuing Georgia Tech's tradition of excellence in academics, research, and community outreach, the Savannah campus also offers robust graduate degree programs and professional education courses. Cutting-edge research facilities house the academic programs as well as the regional office of the Georgia Tech Georgia Tech Enterprise Innovation Institute, the Savannah Advanced Technology Development Center (ATDC), and the Maritime Logistics Innovation Center (MLIC).

Faculty

Director and Professor

J. David Frost

Associate Director and Professor

Monson H. Hayes III, Farrokh Mistree, F. Michael Saunders

Professors

Stanley D. Lindsey, Feodor S. Vainstein, A. Rahman Zaghloul

Associate Professors

Janet K. Allen, Christopher F. Barnes, Rafi L. Muhanna, Ashraf S. Saad, David W. Scott, Paul A. Work, P. Douglas Yoder

Assistant Professors

Randal T. Abler, Ghassan Al-Regib, Hermann M. Fritz, Kevin A. Haas, Joel R. Jackson, Benjamin D. B. Klein, Elliot Moore II

Research Engineer

I. Gail Wells

Georgia Tech Savannah Campus Undergraduate Programs

The Savannah campus of Georgia Tech offers courses leading to the Bachelor of Science in Civil Engineering, Bachelor of Science in Computer Engineering, Bachelor of Science in Electrical Engineering, Bachelor of Science in Environmental Engineering, and Bachelor of Science in Mechanical Engineering. Students may enter into these undergraduate degree programs as transfer applicants from any institution to Georgia Tech or through the Georgia Tech Regional Engineering Program (GTREP).

The objectives of undergraduate degree programs:

1. Provide an educational experience that prepares students for the technical challenges of the engineering profession that they will face during their professional careers
2. Deliver a diverse educational program that encompasses elements that develop individual and team problem-solving skills for a global marketplace
3. Engender an appreciation of the opportunities afforded by technology in the conduct of engineering in the context of multidisciplinary frameworks
4. Integrate an understanding of the application of engineering with the fundamental principles of the discipline through inclusion of elements such as co-op assignments, internships, undergraduate research opportunities, and course projects

The curricula for the undergraduate programs are the same as those in their corresponding academic units, and are presented elsewhere in the Civil and Environmental Engineering; Electrical and Computer Engineering; and Mechanical Engineering sections of this catalog.

GT Savannah Campus Undergrad Programs - Transfer Program

Students who have completed sixty semester hours of college coursework may apply for transfer admission into the undergraduate degree programs offered on the Savannah campus of Georgia Tech. Students in the transfer program are taught by Savannah-based Georgia Tech faculty, complemented by distance instruction from the other Georgia Tech campuses.

The cornerstone of campus activities is the use of technology-enhanced classrooms and studios that allow seamless collaboration between the campuses of Georgia Tech, from classroom instruction and research projects to guest lectures and student organizations. Students are also offered many opportunities for hands-on learning while they complete their degree programs, ranging from undergraduate research projects and internships to Georgia Tech's world-renowned Cooperative Program.

In order to receive the Cooperative Plan designation, a student must be admitted to the Division of Professional Practice and complete a minimum of four work sessions, at least two of which must be undertaken during the fall or spring semesters. The Cooperative Plan normally requires an additional year for completion.

Students wishing to enter into the transfer program should consult Georgia Tech's admission policies, listed in the Transfer Admission section of this catalog.

Georgia Tech Savannah Campus Undergrad Programs - GTREP

The Georgia Tech Regional Engineering Program (GTREP) is operated under a formal academic collaboration between Georgia Tech and three partner institutions: Armstrong Atlantic State University (AASU) and Savannah State University (SSU) in Savannah, Georgia, and Georgia Southern University (GSOU) in Statesboro, Georgia.

During the freshman and sophomore years of the undergraduate degree program, students are enrolled at one of the three partner institutions. These universities offer all of the humanities, mathematics, and science courses and some of the engineering courses required in the first two years of the Georgia Tech engineering curricula. Prior to their junior year, students apply for transfer admission to Georgia Tech and complete their degree program as a Georgia Tech student. Students are taught by Savannah-based Georgia Tech faculty, complemented by distance instruction from the other Georgia Tech campuses.

The cornerstone of campus activities is the use of technology-enhanced classrooms and studios that allow seamless collaboration between the campuses of Georgia Tech, from classroom instruction and research projects to guest lectures and student organizations. Students are also offered many opportunities for hands-on learning while they complete their degree programs, ranging from undergraduate research projects and internships to Georgia Tech's world-renowned Cooperative Program.

The Regional Engineering Program designation is used for these undergraduate degree programs. In order to receive the Cooperative Plan designation, a student must be admitted to the Division of Professional Practice and complete a minimum of four work sessions, at least two of which must be undertaken during the fall or spring semesters. The Cooperative Plan normally requires an additional year for completion.

Georgia Tech Savannah Campus Master's Programs

Six master's degrees are available through Georgia Tech Savannah: Master of Science in Bioengineering, Master of Science in Civil Engineering, Master of Science in Environmental Engineering, Master of Science in Electrical and Computer Engineering, Master of Science in Mechanical Engineering, and Master of Science (undesignated). The master's degree programs require thirty semester credit hours beyond the bachelor's degree. Depending on the specific program of study, students may elect to earn six of these hours by writing a thesis, or they may earn all of the credit through coursework.

The criteria for the master's programs offered through the Georgia Tech Savannah campus are the same as those in their corresponding academic unit, and are presented elsewhere in the Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical Engineering sections of this catalog.

GT Savannah Campus Doctoral Programs

The Ph.D. program is offered to students with an excellent academic background and a capacity for independent research. Doctoral students tailor a highly individualized program of study directed toward completion of a dissertation that is expected to make an important contribution in their selected areas of study. Doctoral degrees are offered in bioengineering, civil engineering, environmental engineering, electrical and computer engineering, and mechanical engineering. Typically, four to five years of study beyond the bachelor's degree are required to complete the doctoral program.

The criteria for the doctoral programs offered through the Georgia Tech Savannah campus are the same as those in their corresponding academic unit, and are presented elsewhere in the Civil and Environmental Engineering, Electrical and Computer Engineering, and Mechanical Engineering sections of this catalog.