Samuel Ginn College of Engineering

CHRIS ROBERTS, Dean
STEVE DUKE, Associate Dean
JEFFREY FERGUS, Associate Dean
RALPH H. ZEE, Associate Dean
ROBERT KARCHER, Assistant Dean

ENGINEERS ARE FACED with worldwide problems and expectations awesome in responsibility, yet exciting as professional challenges. These range from the extremes of interplanetary exploration through earth orbiting systems to the problems arising from our population explosion: energy, better productivity, housing, transportation and environmental issues.

As a renewed appreciation develops for the contributions of science and technology, engineering leaders are calling for engineers who are better equipped to tackle the specific, technical problems of the future. They also are calling for engineers who by breadth of education and understanding of other disciplines can convince others of the role of engineers not only in technical matters but in policy decisions to ensure the use of technology to benefit mankind.

Engineering education at Auburn provides in a four-year curriculum both the technical knowledge and the broad general education necessary to equip engineers for their problem-solving challenges. Centered on mathematics and the physical sciences, the curricula also stress the importance of social sciences, humanities and communication skills. Auburn’s engineering programs enable individuals to develop their natural talents and provide knowledge, skills and understanding that will help them to find their places in society as well as in their vocations.

Admission

Freshmen eligibility is determined by the Office of Enrollment Services. However, since the requirements for engineering education necessitate high school preparatory work of high intellectual quality and of considerable breadth, the following program is recommended as minimum preparation: English, four units; mathematics (including algebra, geometry, trigonometry, and analytical geometry), four units; chemistry, one unit; history, literature, social science, two or three units. Physics and foreign languages are recommended but not required.

Transfers from other institutions must apply through the Office of Enrollment Services. The exact placement of these students can be determined only upon review of their transcripts by the Samuel Ginn College of Engineering. See Admission of Transfer Students for complete requirements.

The college allows credit for courses completed with satisfactory grades provided the courses correspond in time and content to courses offered at Auburn. Courses that are taught at the 3000-level or higher at Auburn are generally not transferable from junior colleges.

Many courses required by the Samuel Ginn College of Engineering are highly specialized in their content and potential transfer students need to select courses with care. Therefore, to ensure maximum transferability of credits, students are encouraged to contact the College as soon as possible about acceptable credits.

Transfers from on-campus must be approved by the Samuel Ginn College of Engineering and the admissions committee of the chosen curriculum. The requirements for a student to advance from the pre-engineering program into an engineering curriculum are subsequently described in the “Scholastic Requirements” section.

Programs

Pre-Engineering

The Pre-Engineering Program consists of a freshman program of studies to prepare students for curricula in the Samuel Ginn College of Engineering. It also provides academic and career counseling to assist students in determining the curriculum that best fulfills their personal and educational objectives.

Professional Programs

The following undergraduate engineering programs are accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org: Aerospace Engineering, Biosystems Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering,

The undergraduate Computer Science program is accredited by the Computing Accreditation Commission of ABET, http://www.abet.org.

These curricula are designed to meet the educational requirements of the engineering professions. The program in the fundamental sciences of mathematics, chemistry and physics is followed by a study of basic engineering sciences. Specialized or departmental courses are taken in the third and fourth years. Flexibility is provided in all degree programs through electives so that the individual may emphasize areas of personal interest.

An ecological engineering option and a forest engineering option are available under the biosystems engineering program. The forest engineering option is offered jointly by the Department of Biosystems Engineering and the School of Forestry and Wildlife Sciences. The environmental science curriculum is offered jointly by the College of Agriculture, the College of Engineering, and the College of Sciences and Mathematics.

Graduate

The Samuel Ginn College of Engineering offers the MS and PhD degrees in aerospace, biosystems, chemical, civil, computer science and software engineering, electrical and computer, industrial and systems, materials and mechanical engineering and polymer and fiber engineering. The following professional degrees are offered as well: master of aerospace engineering, master of chemical engineering, master of civil engineering, master of electrical and computer engineering, master of industrial and systems engineering, master of materials engineering, master of mechanical engineering, master of polymer and fiber engineering, and master of software engineering. The college also offers a dual-degree master of industrial and systems engineering and master of business administration.

Cooperative Education

The Cooperative Education Program is offered in all curricula of the Samuel Ginn College of Engineering. Refer to the program information in the Special Academic Opportunities section of the Bulletin. For additional information, contact: Cooperative Education (Co-Op) Program, 104 Ramsay Hall, Auburn, AL, 36849-5123. Telephone: (334) 844-5410. Website: www.auburn.edu/co-op.

Continuing Education

Business and Engineering Continuing Education extends the resources of the Samuel Ginn College of Engineering to the people, businesses and industries of the state. Programs in this service are technical assistance, short courses, conferences, workshops and seminars. For more information, contact: Director, Business and Engineering Continuing Education, 217 Ramsay Hall, Auburn, AL 36849.

Video-Based Off-Campus Courses

The college offers graduate-level courses for credit and non-credit to off-campus students through its Graduate Outreach Program. Graduate-level courses are recorded in the classroom on the Auburn campus and delivered to off-campus students via streaming video. Students enrolled in the program are required to do the same homework assignments and take the same exams as the on-campus students enrolled in the course. For information on admission to the program, fees, course offerings and other particulars, write to the Graduate Outreach Program, 202 Ramsay Hall, Auburn, AL 36849 or call (334) 844-5300.

Scholastic Requirements

Pre-Engineering students are transferred to the curriculum of their choice in the Samuel Ginn College of Engineering upon meeting the following requirements:

Complete all appropriate freshman courses;

Earn an overall grade-point average of 2.2 on all required and approved elective course work.

Recommendation by the Curriculum Admissions Committee. A student who has not met the above criteria after four resident semesters is dropped from the college. Junior standing will not be granted to any student in the Pre-Engineering Program.

Degree Requirements

To earn the bachelor’s degree in the Samuel Ginn College of Engineering, students must complete the subjects in the curriculum, have a minimum grade-point average of 2.0 in all work attempted at Auburn University and have a cumulative grade-point average of 2.0 on courses passed in the major at Auburn. The major is defined as all course work shown in bold print on the relevant curriculum model. It is the student’s responsibility to keep informed of course requirements and scheduling. Failure to do so may jeopardize graduation.
Military Science
All curricula in the Samuel Ginn College of Engineering permit the use of six hours of basic or advanced ROTC courses passed at Auburn University. For the options, see the specific curriculum. For programs that do not have sufficient electives, credit will be determined on an individual basis. ROTC courses cannot be substituted for any university core or ABET-required courses.

Majors
- Aerospace Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofaerospaceengineering/aerospaceengineering_major)
- Biosystems Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofbiosystemsengineering/biosystemsengineering_major)
- Biosystems Engineering (Ecological Engineering option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofbiosystemsengineering/ecologicalengineeringoption_major)
- Biosystems Engineering (Forest Engineering option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofbiosystemsengineering/foresteeringengineering_major)
- Chemical Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofchemicalengineering/chemicalengineering_major)
- Civil Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofcivilengineering/civilengineering_major)
- Computer Science (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofcomputerscienceandsoftwareengineering/computerscience_major)
- Industrial and Systems Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofindustrialandsystemsengineering/industrialandsystemsengineering_major)
- Materials Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofmechanicalengineering/materialsengineering_major)
- Mechanical Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofmechanicalengineering/mechanicalengineering_major)
- Software Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofcomputerscienceandsoftwareengineering/softwareengineering_major)
- Electrical Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofelectricalandcomputerengineering/electricalengineering_major)
- Electrical Engineering (Computer Engineering Option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofelectricalandcomputerengineering/computerengineering_major)
- Wireless Engineering (Hardware Option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofelectricalandcomputerengineering/wirelessengineeringhardware_major)
- Wireless Engineering (Software Option) (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofelectricalandcomputerengineering/wirelessengineeringsoftware_major)

Minors
- Automotive Engineering and Manufacturing (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofindustrialandsystemsengineering/automotiveeng_manufacturing_minor)
- Business-Engineering-Technology (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofindustrialandsystemsengineering/buseng_tech_minor)
- Computer Science (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofcomputerscienceandsoftwareengineering/computerscience_minor)
- Information Technology (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofcomputerscienceandsoftwareengineering/infotechnology_minor)
- Materials Engineering (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofmechanicalengineering/materialengineering_minor)
- Materials Science (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofmechanicalengineering/materialsscience_minor)
• Nuclear Power Generation Systems (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/ departmentofindustrialandsystemsengineering/nuclearpowergensystems_minor)
• Tribology (http://bulletin.auburn.edu/undergraduate/samuelginncollegeofengineering/departmentofmechanicalengineering/ tribology_minor)

Program

• Aerospace Engineering - MAE., MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ aerospaceengineeringmaemsphd)
• Biosystems Engineering - MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ biosystemsengineeringmsphd_major)
• Chemical Engineering - MChE, MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ chemicalengineeringmchemsphd_major)
• Civil Engineering - MCE, MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ civilengineeringmceemsphd_major)
• Computer Science and Software Engineering - MSwE, MS, PhD (http://bulletin.auburn.edu/thegraduateschool/ graduatedegreesoffered/computerscienceandsoftwareengineeringmswemsphd_major)
• Electrical and Computer Engineering - MEE, MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ electricalandcomputerengineeringmeeemsphd_major)
• Industrial and Systems Engineering - MISE, MISE/MBA, MS, PhD (http://bulletin.auburn.edu/thegraduateschool/ graduatedegreesoffered/industrialandsystemsengineeringmiseemisembamsphd_major)
• Materials Engineering - MMtlE, MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ materialsengineeringmmtlemsphd_major)
• Mechanical Engineering - MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ mechanicalengineeringmmeemsphd_major)
• Polymer and Fiber Engineering - MS, PhD (http://bulletin.auburn.edu/thegraduateschool/graduatedegreesoffered/ polymerandfiberengineeringmfenmsphd_major)