Bachelor of Science in Engineering, B.S.E.

Requirements

The Bachelor of Science in Engineering (B.S.E.) requires a minimum of 128 s.h. of credit. Students must be enrolled in the UI College of Engineering for the last 30 s.h. of work toward the degree, or 45 of the last 60 s.h., or a total of 90 s.h. They must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as on all work undertaken at the University of Iowa.

Engineering students earn the B.S.E. degree in one of eight undergraduate programs of study (majors): biomedical engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, environmental engineering, industrial engineering, or mechanical engineering. Each program's curriculum is divided into four major components: the common core, engineering topics, a focus area, and the General Education Component (GEC).

Core Requirements

The College of Engineering offers a common curriculum for all students in the eight engineering disciplines, thereby allowing students to change programs during the first semesters without a loss in course credit.

The core includes RHET:1030 Rhetoric, a first-year course in writing, speaking, and critical reading; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing, which cover a breadth of topics from engineering as a profession to team design projects to engineering computations and computer programming; and a series of mathematics, basic science, and fundamental engineering courses.

The fundamental engineering courses use the underlying principles learned in the mathematics and the basic sciences to understand and predict the behavior of idealized models of real components or systems encountered in engineering. Students should complete the core requirements according to the following plan.

First Semester

Code	Title	Hours
All of these:		
ENGR:1000	Engineering Success for First-Year Students (all majors)	1
ENGR:1100	Introduction to Engineering Problem Solving (all majors)	3
CHEM:1110	Principles of Chemistry I (all majors)	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus (all majors)	4
RHET:1030	Rhetoric (all majors)	4

Second Semester

Code	Title	Hours
All of these:		
ENGR:1300	Introduction to Engineering Computing (all majors)	3
CHEM:1120	Principles of Chemistry II (biomedical, chemical, and environmental majors)	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus (all majors)	4
MATH:2550	Engineering Mathematics III: Matrix Algebra (all majors)	2
PHYS:1611	Introductory Physics I (all majors)	4

Required Program Courses and Focus Area

The curriculum for each B.S.E. major is described in each program's departmental Catalog section; see biomedical engineering, chemical and biochemical engineering, civil and environmental engineering, electrical and computer engineering, industrial and systems engineering, or mechanical engineering.

Each program has a number of focus areas that are designed to help students achieve exposure to and depth of study in an area that is complimentary to their major. The focus areas enable students to gain technical skills consistent with their career goals. Moreover, these electives may contribute to earning a minor and/or certificate.

General Education Component

The general education component promotes understanding of and appreciation for arts, community, culture, and learning through coursework. Students are required to complete 15 sh. of the general education component as outlined below:

- Engineering Be Creative: 3 s.h.
- Diversity and Inclusion: 3 s.h.
- Approved subjects: 9 s.h. (industrial engineering students are required to complete PSY:1001 Elementary Psychology)

Credit may be earned by examination; consult the College of Engineering.

Students who enter the College of Engineering with a B.A. or B.S. degree are considered to have satisfied the general education component requirement.

Students who enroll in a combined degree program in the College of Engineering and in the College of Liberal Arts and Sciences or in the Tippie College of Business are considered to have satisfied the College of Engineering's general education requirement once they have completed all requirements for the liberal arts and sciences degree or the business degree.