Bachelor of Science in Engineering, BSE

Requirements

The Bachelor of Science in Engineering (BSE) requires a minimum of 128 s.h. of credit. Students must be enrolled as a College of Engineering student 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. At the time of graduation, students must have a cumulative grade-point average of at least 2.00 in all college work used to complete degree requirements and in all UI coursework in order to be awarded the BSE.

Engineering students earn the BSE 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.

The collegiate curriculum requires all students to complete a minimum of 30 s.h. of mathematics and basic sciences; 6 s.h. of core engineering; and 19 s.h. of general education courses (including RHET:1030 Rhetoric: Writing and Communication and 15 s.h. of additional electives). Collegiate courses are typically completed early in a student's undergraduate program, thereby allowing students to change programs during the first semesters without a loss in course credit.

These foundational courses serve as prerequisites or corequisites for more advanced coursework in the major. Each major has several focus areas consisting of required and elective courses that provide students the flexibility to tailor their studies to their career interests. Each major culminates in a capstone senior design project.

Collegiate Curriculum Requirements

All students in the College of Engineering are required to complete the following courses as part of their collegiate curriculum.

Requirements	Hours
Mathematics and Basic Sciences	30
Engineering Core	6
General Education	19

Mathematics and Basic Sciences

Students complete a minimum of 30 s.h. in mathematics and basic sciences. Courses with the option of a laboratory component must be taken with the lab. Students should refer to the individual departmental section in the catalog for information about fulfilling the statistics course and the basic science and college-level mathematics courses for their particular BSE program.

Course #	Title	Hours
CHEM:1110	Principles of Chemistry I (with lab)	4
MATH:1550	Engineering Calculus I	4
MATH:1560	Engineering Calculus II	4
MATH:2550	Engineering Matrix Algebra	2
MATH:2560	Engineering Differential Equations	3
PHYS:1611	Introductory Physics I (with lab)	4
Basic Science or College-Level Math		6
Statistics		3

Engineering Core

The engineering core consists of two engineering courses required by all undergraduate programs in the College of Engineering.

Course #	Title	Hours
ENGR:1100	Introduction to Engineering Problem Solving	3
ENGR:1300	Introduction to Engineering Computing	3

General Education

Students are required to complete 19 sh. of general education courses; for more information, see General Education Component [p.] in this section of the catalog.

First- and Second-Semester Plan of Study

The majority of the collegiate curriculum can be completed in the first two semesters.

First Semester

Course #	Title	Hours
ENGR:1100	Introduction to Engineering Problem Solving	3
CHEM:1110	Principles of Chemistry I	4
MATH:1550	Engineering Calculus I	4
RHET:1030	Rhetoric: Writing and Communication	4
Total Hours		**15**

Second Semester

Course #	Title	Hours
ENGR:1300	Introduction to Engineering Computing	3
MATH:1560	Engineering Calculus II	4
MATH:2550	Engineering Matrix Algebra	2
PHYS:1611	Introductory Physics I	4
General education or major requirement course		3-4
Total Hours		**16-17**

Major Courses and Focus Areas

The curriculum for each BSE major is described in each of the departmental sections of the catalog. 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 complementary 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.