Mechanical Engineering, B.S.E.

Requirements

The Bachelor of Science in Engineering requires a minimum of 128 s.h. of credit. Students 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.

The major in mechanical engineering lays a foundation in the basic disciplines of mathematics, physics, and chemistry and in the engineering sciences of statics, dynamics, thermodynamics, mechanics of deformable bodies, mechanics of fluids and transfer processes, materials science, and electrical sciences. An understanding of these sciences enables mechanical engineers to design parts of systems and understand whole systems, plan the production and use of energy, plan and operate industrial manufacturing facilities, and design automatic control systems for machines and other mechanical systems.

Mechanical engineering students develop an awareness of social and humanistic issues relating to business, environment, government, history, language, religion, and international relations. They also acquire an appreciation of professional and ethical responsibilities.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric, ENGR:1100 Introduction to Engineering Problem Solving, ENGR:1300 Introduction to Engineering Computing, and courses in chemistry, engineering mathematics and fundamentals, and physics.

They also complete the curriculum designed for their major program, which covers four major stems: mathematics and basic sciences, engineering topics, an elective focus area, and the General Education Component (GEC). For information about the curriculum stems, see the Bachelor of Science in Engineering, B.S.E. in the Catalog.

Upper-level students work on team projects in a senior capstone design course, ME:4086 Mechanical Engineering Design Project. Some students may arrange to participate in established research projects.

Students must select elective focus area courses according to guidelines established by the Department of Mechanical Engineering. See “Elective Focus Area” below.

Elective Focus Area

The mechanical engineering program offers a variety of elective focus area options, including standard focus areas developed and maintained by the program and flexible focus areas tailored to individual student interests.

Mechanical engineering students can select an elective focus area from the following.

- Energy and Environment
- Manufacturing
- Mechanical Engineering Design
- Robotics and Autonomous Systems
- Tailored

For a list of standard mechanical engineering elective focus area options and guidelines for tailored elective focus areas, see the undergraduate Mechanical Engineering Program page on the Department of Mechanical Engineering website.