Civil Engineering, B.S.E.

Educational Objectives

Within a few years of graduation, graduates of the Bachelor of Science in Engineering (B.S.E.) program in civil engineering will:

- be productive and contributing members of the civil engineering profession as practitioners, entrepreneurs, researchers, or teachers;
- be engaged in learning, understanding, and applying new ideas as the field develops;
- pursue advanced studies, if qualified and interested; and
- promote the safety, health, and welfare of the public and the environment through professional practice and civic leadership.

Requirements

The Bachelor of Science in Engineering with a major in civil engineering requires a minimum of 132 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.

All engineering students complete the B.S.E. core requirements, which include RHET:1030 Rhetoric; ENGR:1100 Introduction to Engineering Problem Solving and 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, a focus area, and the General Education Component. For information about the curriculum stems, see the Bachelor of Science in Engineering, B.S.E. in the Catalog.

Students must select focus area courses according to guidelines established by the Department of Civil and Environmental Engineering. See “Focus Areas” below.

Focus Areas

Civil engineering students may choose from several standard focus areas developed by the department or create an individual focus area tailored to their interests.

Standard focus areas are offered in the broad field of civil and environmental engineering practice and in the four technical areas: environmental engineering; hydraulics and water resources; structures, mechanics, and materials; and transportation engineering. Other areas of focus include pre-architecture and urban and regional planning. For a list of standard focus area options and guidelines for tailored focus areas in civil engineering, see Elective Focus Areas on the Department of Civil and Environmental Engineering website.

Combined Programs

B.S.E./M.S. in Civil and Environmental Engineering

The College of Engineering offers the combined Bachelor of Science in Engineering/Master of Science program for civil engineering undergraduate students who intend to earn a M.S. in civil and environmental engineering. B.S.E./M.S. students may attend the departmental graduate seminar and work on a master's thesis or research project while they are still undergraduates. They may count a limited amount of coursework toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h. and have a cumulative g.p.a. of at least 3.25. They must submit an application form to the Department of Civil and Environmental Engineering, along with a letter stating their proposed area of specialization and the name of a department faculty member willing to be their primary M.S. advisor. Graduate Record Examination (GRE) General Test scores are not required for the degree program. Applications are due by May 15.

B.S.E./M.S. in Urban and Regional Planning

The College of Engineering and the School of Planning and Public Affairs offer the combined Bachelor of Science in Engineering/Master of Science program in urban and regional planning. The program, which is completed in five years, is designed for students who wish to pursue a public or private sector career in planning, a field that encompasses the development of alternatives to improve the quality of life in cities and regions.

Graduates are technically oriented professionals who have a clear understanding of policy development and implementation, which they apply to civil and industrial engineering problems. They fill positions such as public works director, transportation engineer, and public utilities staff member.

Each student in the combined program has two advisors, one in civil engineering and one in planning and public affairs. Students enroll in the College of Engineering for their first four years in the program and in the Graduate College for their fifth year. They follow the standard curriculum of their B.S.E. program during the first two years and begin adding courses from the planning and public affairs program during the third year. Successful students receive a B.S.E. at the end of the fourth year and an M.S. in urban and regional planning at the end of the fifth year.

Students in the combined program must maintain a cumulative g.p.a. of at least 3.00 in order to graduate with an M.S. in urban and regional planning.

For more information, see the M.S. in urban and regional planning (Graduate College) in the Catalog. Contact Engineering Student Services for information about applying to the combined program.
Career Advancement

When it comes to building the nation’s infrastructure or protecting the natural environment, civil environmental engineers are at the forefront. They not only design roads, bridges, and structures, provide clean drinking water, and protect people from natural hazards like flooding or earthquakes, they also engage with the public to create a more sustainable future. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college’s co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

Engineering Career Services also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.