

Civil and Environmental Engineering

Chair

- A. Allen Bradley Jr.

Undergraduate majors: civil engineering (BSE); environmental engineering (BSE)

Graduate degrees: MS in civil and environmental engineering; PhD in civil and environmental engineering

Faculty: <https://engineering.uiowa.edu/cee/cee-people>

Website: <https://engineering.uiowa.edu/cee>

Civil and environmental engineering is one of the three largest fields of engineering. It traditionally has been concerned with infrastructure facilities that are both large in scale and essential to modern life. Civil and environmental engineering projects include transportation systems and their components, such as bridges, highways, public transit systems, railways, harbors, airports, and seaports; large-scale structures and office buildings that provide enclosed working and living space; and environmental and hydraulic systems that provide clean water and air, including filtration plants and distribution systems for municipal and industrial water supplies, wastewater treatment plants, dams, levees, and irrigation systems.

Growth areas of civil and environmental engineering include water sustainability, infrastructure development, construction management, computer-aided design, hazardous waste management, and engineered environmental systems. In the future, civil and environmental engineers will be called upon to design structures for the earth, prevent erosion and sedimentation of rivers, predict the effects of global climate change on the environment, provide modern and efficient transportation systems, and ensure the quality of air, surface waters, and groundwaters.

In planning and design, civil and environmental engineers work with other engineers, architects, landscape architects, planners, economists, financiers, sociologists, lawyers, and other specialists as members of the design team. Some civil and environmental engineers work in engineering offices; others may be called upon to construct or supervise outdoor projects they have designed. These field assignments, many of which are in remote and fascinating parts of the world, are particularly appealing to many civil and environmental engineers. There also is significant potential for entrepreneurial work by civil and environmental engineers as they start their own companies.

In addition to the degree programs offered by the Department of Civil and Environmental Engineering, the department also participates in two Graduate College programs: Applied Mathematical and Computational Sciences, an interdisciplinary doctoral program; and Transportation Planning, a graduate certificate program.

Certificates

Sustainable Water Development

The graduate Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics

(STEM) students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. The Department of Civil and Environmental Engineering administers the certificate program; see the Certificate in Sustainable Water Development in the catalog.

Related Certificate: Transportation Planning

The graduate Certificate in Transportation Planning focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), and Economics (Tippie College of Business), and the School of Planning and Public Affairs (Graduate College) participate in the program.

The certificate is coordinated by the School of Planning and Public Affairs; see the Certificate in Transportation Planning in the catalog.