

# DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

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Environmental sensitivity and sustainable development are emerging as the tenets for continued survival on our planet. Civil engineers design innovative solutions to ensure wise stewardship of our limited natural resources and in designing the infrastructure needed for modern society to function. Students who enter the civil engineering profession can anticipate a very challenging and rewarding career.

Civil engineers apply scientific principles to the design of society's infrastructure. The pyramids of Egypt, the irrigation systems that supported agriculture in ancient Babylonia and Assyria, the roads that linked the Roman Empire, and the railroads, bridges and barge canals of the early United States were all civil engineering projects that served the people of their times. Today's civil engineers are involved in the design and construction of highways, bridges, buildings, water conveyance systems, water reuse facilities, wastewater treatment plants, and airports. Civil engineers may also be involved in planning for traffic control, flood plain management, remediation of contaminated groundwater, and water and air quality management. Graduates of civil engineering programs work in engineering consulting firms, in government agencies at the local/state/federal level, for non-governmental organizations (NGOs), and with construction contractors.

Lower-division courses in civil engineering consist of basic courses in science, mathematics, and engineering required of most students within the College of Engineering. Coursework in the junior year provides students with a broad background in all of the civil engineering subdisciplines, while technical electives in the senior year allow for specialization. For civil engineering students interested in geology, there is an option to complete a minor in geological and mining engineering.

The department offers the following five graduate degree programs (the non-thesis degrees may be completed on a part-time basis and entirely online):

1. Master of Science (M.S.) in civil engineering (30 credits, with thesis),
2. Master of Engineering (M.Engr.) in civil engineering (30 credits, non-thesis),
3. Master of Science (M.S.) in geological engineering (30 credits, with thesis),
4. Master of Science (M.S.) in geological engineering (30 credits, non-thesis), and
5. Doctor of Philosophy (Ph.D.) in civil engineering.

Coursework in each of the graduate degree programs is relatively flexible depending on student interest and course availability. Financial assistance is available on a competitive basis in the form of teaching and research assistantships for thesis and dissertation students only. Applicants to the Ph.D. program are admitted only if financial support is available, normally in the form of research assistantships that are awarded at the discretion of individual faculty members. Before submitting an application, students interested in this program should

contact a faculty member with similar interests to determine if funding is available.

Applicants to graduate study in civil engineering should hold degrees in civil engineering or in another engineering discipline. Exceptions are made only if specific deficiency courses are taken before admission. Completing deficiency courses does not guarantee admission to a graduate program; if admitted, credit for such courses is not counted toward the total number of credits required for a degree. Additional preparatory coursework may also be required as determined by the student's Graduate Committee or as needed to enroll in courses in the student's study plan. Students with a background in mathematics, physics, geology, or hydrology are welcome to apply to the graduate programs in geological engineering, but must complete any deficiency courses before admission; in addition, two years of professional work experience is expected. We do not currently require the GRE.

The mission of the Department of Civil and Environmental Engineering is to provide a high quality education at both the undergraduate and graduate levels. In the 4-6 years after completing the University of Idaho's bachelor's degree in civil engineering, we expect our graduates to

1. attain career advancement based on a demonstrated ability to apply and expand fundamental engineering principles to the analysis and design of engineering projects, incorporate professional codes and standards, and be aware of social, economic and environmental impacts;
2. be effective and competent communicators regarding civil engineering systems and processes;
3. establish a path for life-long learning and continuous professional development through graduate education, short-courses, service on professional committees, and attendance at conferences;
4. meet or exceed the State Board qualification requirements to obtain professional engineering licensure and accept higher levels of responsibility in managing personnel and projects requiring collaboration with interdisciplinary groups, elected officials, and the public; and
5. be accountable for the health, safety, and welfare of the general public, while maintaining the highest ethical and professional practices.

The Bachelor of Science (B.S.) in civil engineering at the University of Idaho is accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org>). (<http://www.abet.org>)

## Majors

- Civil Engineering (B.S.C.E.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/civil-environmental-engineering/civil-engineering-bsce/>)

## Minors

- Geological and Mining Engineering Minor (<https://catalog.uidaho.edu/colleges-related-units/engineering/civil-environmental-engineering/geological-engineering-minor/>)

## Civil and Environmental Engineering Graduate Program

Graduate study is offered with specialization in the following subdisciplines of civil engineering: hydraulics and hydrologic engineering, ecohydrology (in Boise only), environmental engineering,

structural engineering, geotechnical engineering, highway and pavement materials, and transportation engineering.

- Civil Engineering (M.Engr.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/civil-environmental-engineering/civil-engineering-mengr/>)
- Civil Engineering (M.S.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/civil-environmental-engineering/civil-engineering-ms/>)
- Civil Engineering (Ph.D.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/civil-environmental-engineering/civil-engineering-phd/>)
- Geological Engineering (M.S.) (<https://catalog.uidaho.edu/colleges-related-units/engineering/civil-environmental-engineering/geological-engineering-ms/>)