Civil and Environmental Engineering

Website (https://cee.northeastern.edu/)

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Overview

As a leader in research and education, the Department of Civil and Environmental Engineering at Northeastern University prepares undergraduate engineers to excel in their chosen careers, including engineering practice, academia, infrastructure management, land-use planning and development, urban and regional planning, public sector leadership, and many others.

Our students have an opportunity to obtain a broad knowledge base in science, engineering, and general studies that allows them flexibility in career development and graduate education. At the same time, our graduates should be responsible and scientifically educated citizens, prepared to contribute personally as well as professionally to an educated, democratic society. Our academic programs provide future professionals with the core skills necessary to practice civil and environmental engineering and to work with other engineers in an interdisciplinary environment.

Experience tells us that civil and environmental engineering graduates will enter almost every field imaginable. The knowledge and skills acquired—understanding science, critical thinking, effective communication, and understanding the social context, among them—form an excellent foundation for a host of careers, as well as for a fulfilling life outside the world of work.

Mission of the Department

Advancing innovative civil and environmental solutions for society and creating globally oriented engineering leaders by integrating experiential education and use-inspired interdisciplinary research.

Academic Programs

With a strategic focus in urban engineering, and through a range of teaching and research strengths, anchored by several multidisciplinary, multi-institutional centers and programs, our academic programs are designed to prepare future engineers to address the global, complex, and ever-evolving engineering challenges of our time by building on current department strengths and expanding into vital areas.

Three overarching themes are emphasized in our programs: environmental health, civil infrastructure security, and sustainable resource engineering. These themes are aligned with the department's premier strengths in simulation (both computational and experimental), smart sensing, data and network science, and urban informatics and are incorporated in the undergraduate programs we offer.

Successful graduates in civil engineering and environmental engineering will have the ability to create, invent, and lead a new generation of professionals and will be able to address key challenges to protect the natural environment and to design and create the built environment for community living, industry, and society development.

Our programs have been designed with a set of electives that permit students to explore or acquire further depth in other fields of interest. Students can use these electives to earn a minor in environmental chemistry, architectural engineering, business, architectural history, music, computer science, or any number of other fields. In the civil engineering field, our programs encompass several disciplines, including transportation planning and engineering; structural engineering; geotechnical engineering; environmental, water resources, and coastal engineering; and construction management. In the environmental engineering field, our programs include developing sustainable resource engineering solutions to environmental health needs with an understanding of institutional and legal frameworks, all related to interconnected challenges in water, energy, air pollution, and waste management, to protect and provide a better quality of life to the human race. For a full list of the department's academic program offerings, please refer to the programs tab.

Other Programmatic Features

By participating in our cooperative education program, our graduates will have an opportunity to explore what career objectives fit their own skills and interests. The goal of this component of our program is to offer students valuable professional experience and contacts that will help get them started in their professional career, as well as to develop career management skills. The co-op program parallels the academic program in level of responsibility and sophistication.

The department also offers significant research opportunities throughout all fields of civil and environmental engineering, including participating in research centers based in our department and college, as well as new interdisciplinary graduate and professional master's programs.

Programs

Bachelor of Science in Civil Engineering (BSCE)

- Civil Engineering (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/civil-engineering-bsce/)
- Civil Engineering and Architectural Studies (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/civil-engineering-architectural-studies-bsce/)
- Civil Engineering and Computer Science (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/civil-engineering-computer-science-bsce/)

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering and Environmental Engineering (https://catalog.northeastern.edu/undergraduate/engineering/chemical/chemical-engineering-environmental-engineering-bsche/)

Bachelor of Science in Environmental Engineering (BSEnvE)

- Environmental Engineering (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/environmental-engineering-bsenve/)
- Environmental Engineering and Chemical Engineering (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/environmental-engineering-chemical-engineering-bsenve/)
- Environmental Engineering and Data Science (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/environmental-engineering-data-science-bsenve/)
- Environmental Engineering and Health Science (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/environmental-engineering-health-sciences-bsenve/)
- Environmental Engineering and Landscape Architecture (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/environmental-engineering-landscape-architecture-bsenve/)

Minor

- Architectural Engineering (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/architectural-engineering-minor/)
- Civil Engineering (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/civil-engineering-minor/)
- Environmental Chemistry (https://catalog.northeastern.edu/undergraduate/science/chemistry-chemical-biology/environmental-chemistry-minor/)
- Environmental Engineering (https://catalog.northeastern.edu/undergraduate/engineering/civil-environmental/environmental-engineering-minor/)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (https://catalog.northeastern.edu/undergraduate/engineering/accelerated-bachelor-graduate-degree-programs/#programstext)