

DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING

The Department of Civil and Environmental Engineering (CEE) seeks to understand the world, invent, and innovate with creative design. To address some of the greatest challenges of our time, the department uses approaches that range from basic scientific principles to complex engineering design, at scales from the nano to the global. Emphasizing the use of quantitative approaches, CEE features two vibrant centers of gravity: environment (what exists as natural systems) and infrastructure (what is created by human activity). The department is organized into two laboratories around these focus areas: the Parsons Laboratory for Environmental Science and Engineering (<https://cee.mit.edu/research/#Parsons>) and the Pierce Laboratory for Infrastructure Science and Engineering (<https://cee.mit.edu/research/#Pierce>), which emphasizes materials and systems. CEE consists of people from a broad range of academic disciplines who work together to contribute to exciting intellectual networks across the department and MIT, solving tomorrow's problems to build a better future through discovery and innovation.

An education in civil and environmental engineering provides an excellent foundation to solve the world's greatest challenges in areas such as sustainability, environment, or energy. It prepares students for careers in fields as diverse as engineering design, education, law, medicine, and public health, as well as for graduate study in engineering and science. Graduates teach and carry out research in universities, work for large firms, start their own businesses, and hold leadership positions in government and nonprofit organizations. The department's undergraduate program provides a solid background in science and engineering fundamentals while emphasizing hands-on design and research projects that provide real-world context. Students focus on the use of large data, computation, probability, and data analysis, and learn how to combine theory, experiments, and modeling to understand and solve complex science and engineering problems.

Course 1-ENG is the undergraduate degree program offered by The Department of Civil and Environmental Engineering. 1-ENG leads to a Bachelor of Science in General Engineering, and has a flexible curriculum that supplements a civil and environmental engineering foundation with an area of core coursework in a field of specialization, introducing exciting opportunities for disciplinary or multidisciplinary focus. This program is accredited by the Engineering Accreditation Commission of Accreditation Board for Engineering and Technology (ABET) (<http://www.abet.org>) as a general engineering degree. CEE also offers a joint undergraduate degree program with Earth, Atmospheric, and Planetary Sciences that focuses on the intersection of climate science and engineering solutions: 1-12 Climate System Science and Engineering (<https://catalog.mit.edu/interdisciplinary/undergraduate-programs/degrees/climate-system-science-engineering>).

The department also offers graduate degrees within the broadly defined areas of environmental science and engineering (which includes environmental chemistry, environmental fluid mechanics, ecology, and hydrology and hydroclimatology), mechanics of materials and structures, transportation and systems engineering. The depth and breadth of coursework and research required differ for each degree program.

The department's graduate degrees are as follows: Master of Engineering (MEng), Master of Science in Transportation (MST), Master of Science (SM), Civil Engineer, Environmental Engineer, Doctor of Philosophy (PhD), and Doctor of Science (ScD).