Endless career opportunities

It's a diverse field that opens the door for careers in a wide variety of areas, including the following:

**Structures**: Civil engineers design and supervise construction of skyscrapers, dams, stadiums, airports, highways, and bridges.

**Transportation**: From high-speed railroads to computer-controlled traffic systems, transportation engineers devise ways to make our transportation systems more efficient.

**Foundations and earth structures**: Geotechnical engineers design substructures, foundations and earth structures such as levees and dams.

**Water resources**: Water resource engineers plan and design water delivery systems and ensure that municipal water supplies are safe to drink.

**The environment**: Environmental engineers help keep our environment clean by dealing with society’s by-products, from hazardous waste remediation to landfill design and wastewater treatment.

**Coastal engineering**: This area of specialty focuses on the interaction of waves and currents with nearshore and offshore structures.

**Failure analysis**: Civil engineers analyze the causes of structural failures in order to improve structural codes and construction techniques.

**Disasters**: One of the most crucial jobs civil engineers do is to protect people from disasters such as earthquakes, floods, and high winds by designing structures that can withstand these forces.

**Materials**: Civil engineers are exploring ways to use advanced composite materials and new high-performance steel and concrete to reinforce deteriorating structures and build longer-lasting new ones.

**What is Civil Engineering?** Civil engineers work to solve a wide variety of problems associated with the infrastructure and daily service needs of society—needs like clean water, safe buildings, and convenient transportation.

Major areas of emphasis

Students working on their Bachelor of Civil Engineering degree have some flexibility in designing a curriculum to meet their needs and interests. After laying a strong foundation in math, science, and engineering through required courses, students may begin taking technical electives in one of the main focus areas—structural, geotechnical, environmental, water resources, transportation, or ocean and coastal engineering. The department also offers minors in civil engineering and environmental engineering.

Active research ensures that the content of the undergraduate program is constantly renewed and maintained at a challenging technical level and integrates discovery learning into the program. Opportunities abound for civil engineering undergraduates to work with faculty and graduate students as research assistants, either for pay or independent study credit. We want our graduates to have the skills necessary to pursue advance degrees.

Research in the department covers a broad range of topics with particular strengths in bridge design, construction, evaluation, and rehabilitation; applications of composite materials to concrete, steel, and earth structures; computer modeling of wave/shoreline interactions; intelligent transportation systems; management and operation of civil infrastructure systems; remediation of contaminated soil and groundwater; and biodegradation of wastes. More detailed information about our research program is available on our website.

In the face of decaying cities, clogged roadways, urban sprawl, and widespread pollution, civil engineers are being called upon to design solutions that are workable and cost-effective for our society. They are therefore often drawn to related areas of business, law, architecture, and urban planning. But whatever their specialty, civil engineers do work that directly affects the quality of life for millions of people.
Additional study opportunities

Exploring the humanities and social sciences through the breadth requirements

All engineering curricula include self-selected humanities and social science courses. The required 21 credits of breadth coursework include 18 credits of humanities and social sciences, and 3 credits of chemistry, math or physics.

Please note: 3 of the above credits must also satisfy the Multicultural Requirement (University requirement); 6 credits must be above the introductory level (College requirement); and already completed Advanced Placement (AP) credit may apply toward these requirements.

Exploring other subjects through minors

A minor is a small set of courses in a particular subject area that differs from a student's major. Minors normally require five to seven courses to be completed in the subject area. Students may double-count courses for credit against both majors and minors. If electives are chosen carefully, minors can easily be integrated into the program requirements. Nearly half of all engineering students have at least one minor, many have two or three.

4+1 BCE/MCE and BENE/MCE Program

Well-qualified Civil and Environmental Engineering majors may apply to the 4+1 program to earn a Bachelor degree in Civil Engineering (BCE) or Environmental Engineering (BENE) and a Master of Civil Engineering (MCE) degree within 5 years. The program is limited to University of Delaware undergraduates pursuing the BCE or BENE degree, with a minimum GPA of 3.25 at the time of application.

After graduation

The study of engineering fosters the development of quantitative, analytical, and problem-solving skills that are very useful in many different career areas. On average, 70–80% of graduates with a Bachelor of Civil Engineering degree choose employment in private industry; federal, state, and local government agencies; and private practice. Approximately 15–20% of civil engineering graduates will choose to continue their education toward a master's or Ph.D. degree, and some graduates will choose to attend law, architecture, medical, or business school. Students who earn Ph.D. degrees in engineering usually pursue a career in advanced research or as a faculty member in a college of engineering.

Career resources

The Career Services Center provides comprehensive services to all matriculated undergraduate students, primarily in the development and implementation of career and educational plans. The Career Services Center can help you determine a major, find internships or full-time jobs, build your resume and cover letter, practice interview skills, apply to graduate or professional school, or network with employers. Visit www.udel.edu/CSC for details.

Total credit hours: 126

* A list of Breadth Requirement courses is available at: www.engr.udel.edu/advice/undergrad_programs.html