

# CIVIL ENGINEERING, BS

Civil engineering shapes our world by supporting the health and safety of the environment and the communities we call home. It's a multidisciplinary career field dedicated to public good by designing, building, operating, and maintaining:

- Buildings, homes, schools, theaters, and stadiums where we live, learn, work, and play
- Highways, streets, and bridges where we walk, bike, and drive
- Systems and infrastructure that guard us from flooding and provide safe water for drinking, swimming, and recreation
- Transportation hubs like airports, railways, and harbors that support the movement of people and goods
- Treatment and emission systems that ensure the safety of the air we breathe
- Systems for recycling, reusing, and disposing of solid and hazardous waste
- Production and transmission systems for conventional and renewable energy sources

As our infrastructure needs evolve and older generations leave the workforce, the demand for civil engineers is on the rise. The U.S. Bureau of Labor and Statistics projects over 21,000 job openings annually in the civil engineering field now through 2032, exceeding the average for other occupations.

At the University of Wisconsin–Madison, we help future engineers prepare for what's ahead with hands-on learning opportunities in well-equipped labs (<https://engineering.wisc.edu/news/vacuum-box-enhances-structures-lab-testing-capacity/>), computer facilities, on-site and field experiences, and our capstone design course (<https://engineering.wisc.edu/blog/excellence-in-civil-engineering-education-capstone-course-wins-10th-and-11th-ncees-awards/>).

You'll learn from supportive professors and practicing engineers while using the tools and technology that civil engineers use every day. Working with other students, you'll create solutions to challenges in our natural and built environments for real-world clients. And as you move forward in the program, you'll be ready for internships and co-ops (<https://engineering.wisc.edu/blog/a-blueprint-for-success-schiesls-journey-from-student-to-alum/>) that add to your education and offer valuable experience before graduation day.

Required civil engineering courses cover the breadth of fundamental knowledge you will need in this career field. Elective courses in facility design or operation help you tailor your studies and explore the latest innovations and methods for integrating sustainability, resilience to climate change, smart infrastructure, and virtual reality into engineering design and operation. There are also a variety of certificate programs that you can pair with your degree, including a Certificate in Architecture (<https://guide.wisc.edu/undergraduate/engineering/civil-environmental-engineering/architecture-certificate/>).

We encourage students to take the Fundamentals of Engineering (FE) exam before or shortly after graduating (<https://engineering.wisc.edu/blog/taking-the-fe-exam-as-an-undergrad/>), which is the first step in professional engineering licensure and its benefits. A pass rate of 95%

among our students surpasses the national average of 70%, ensuring our graduates are well-prepared for their careers.

Alumni from our program find jobs with planning and design consulting firms (<https://engineering.wisc.edu/blog/from-student-to-startup-co-founder-olivia-fritz-sets-sights-on-sustainability-engineering/>); architectural firms; construction companies; local, state, and federal agencies (<https://engineering.wisc.edu/blog/anthony-heddlesten-2023-early-career-award-recipient/>); and beyond. Areas of expertise include construction engineering and management, environmental engineering, geological and geotechnical engineering, structural engineering, transportation engineering, and water resources. Common entry-level job titles include civil engineer, field engineer, design engineer, structural engineer, surveyor, and transportation engineer.

## VISION

Develop and maintain a learning community that pursues new knowledge and understanding, and provides innovative and sustainable solutions to human and ecological needs.

## MISSION OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING (BSCE) PROGRAM

Create, integrate, and transfer civil engineering knowledge and practice in the development of professionals, leaders, and citizens that help define and serve societal and environmental needs by applying this knowledge and practice in an effective and sustainable manner.