

# ENVIRONMENTAL ENGINEERING, BS

Environmental engineering is a career path to protecting, restoring, managing, and enhancing the natural world around us and how we interact with it for today's generation and tomorrow's. Professionals in this field design, build, and operate systems and facilities to:

- Treat and distribute safe and reliable drinking water
- Recover materials, nutrients, and energy resources from wastewater and solid waste
- Protect and restore wetlands, streams, lakes, and groundwater
- Allocate water resources for urban, agricultural, and recreational use
- Protect and develop coastal shorelines and stream banks
- Manage stormwater and minimize flood risk
- Reduce, reuse, and recycle waste
- Minimize the creation of and provide treatment for industrial and agricultural waste and air emissions
- Protect us from the impacts of climate change, like rising sea levels and severe weather
- Slow down or reverse climate change by:
  - Using alternative energy sources, like solar, wind, geothermal, and biofuels
  - Recovering carbon and other greenhouse gases from industrial air emissions

Climate change, resource depletion, and older generations leaving the workforce are increasing the need for environmental engineers. With a focus on environmental, economic, and societal health and sustainability, we're guiding the next generation of environmental engineers with hands-on learning opportunities in well-equipped labs (<https://engineering.wisc.edu/news/one-of-a-kind-environmental-engineering-class-overflows-with-real-world-examples/>), computer facilities, on-site and field experiences, and our capstone design course (<https://engineering.wisc.edu/blog/cee-capstone-course-wins-7th-ncees-award-for-renewable-energy-project/>).

As an environmental engineering student, you'll learn how to ethically use engineering to protect, restore, remediate, reduce, and reuse resources on earth and in the air and water. Supportive faculty, staff, and practicing engineers will help you use and understand the tools and technology that environmental engineers use every day. And as you move forward in the program, you'll be ready for internships, co-ops, and undergraduate research opportunities to build your resume.

Required courses in this program cover the core breadth of knowledge you will need as an environmental engineer. Elective courses in facility design or operation are a way to tailor your studies and learn more about sustainability, resilience to climate change, smart infrastructure, and virtual reality in your career field. There are also certificate programs that you can pair with your degree, including two options on environmental sustainability.

Environmental engineering jobs are found in industries ranging from energy to public health; water resources; environmental protection and restoration; and resource recovery, recycling, and waste management. Employers include planning and design consulting firms; architectural firms; construction companies; manufacturers; laboratories; and local,

state, and federal agencies. Entry-level job titles are environmental engineer, field engineer, environmental scientist, natural resource specialist, and hydrologist.

To stay current in the field, lifelong learning and professional licensure are key. Students are encouraged to take the FE exam before graduation or shortly after (<https://engineering.wisc.edu/blog/taking-the-fe-exam-as-an-undergrad/>), which is the first step in professional licensure. A pass rate of 95% among our students surpasses the national average of 70%, ensuring our graduates are well-prepared for their careers.

## 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 ENVIRONMENTAL ENGINEERING (BSENE) PROGRAM

Create, integrate, and transfer environmental 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.