Curriculum Overview
The BS degree in Environmental Engineering is accredited by the Engineering Commission of ABET (abet.org) and prepares students for graduate study and/or professional practice.

[FRESHMAN-SOPHOMORE]
During the first two years of study, the environmental engineering curriculum provides for the development of fundamental knowledge and skills in the basic sciences (chemistry and physics) and applied sciences (environmental microbiology and environmental chemistry), mathematics through differential equations, and basic engineering (engineering principles, statics and mechanics, and CAD). Introduction to environmental engineering is included early in the curriculum, in the fall of the sophomore year. These courses give a solid foundation in problem solving and analytical thinking, which are essential for environmental engineering students.

[JUNIOR]
In the junior year, this development is supplemented by courses in civil engineering (fluid and soil mechanics, hydraulics, statistics, and surveying), program-specific environmental engineering courses (ecological engineering and sustainability), an applied biological science course (ecology), and two lab courses where hands-on laboratories build practical skills from the classroom instruction.

[SENIOR]
During the senior year, students complete a sequence of advanced courses: hydrologic and groundwater engineering, treatment process engineering, and a departmental elective. Professional practice issues are covered in the fall semester, followed by capstone design in the spring semester. An earth science elective and two technical electives are included as well. Students may select technical electives from engineering and a wide range of supporting programs. Most students take the Fundamentals of Engineering (FE) exam in spring of their senior year.

Did You Know?
You can get paid to go to graduate school. Many of our graduates choose to continue their studies at UB or attend other top tier universities, such as MIT, Purdue, Carnegie Mellon, UC Berkeley, UT Austin and Texas A&M. Top graduate students at UB may receive tuition scholarships and a stipend to support their studies.
Learning by Experience

The School of Engineering and Applied Sciences places significant emphasis on real-world experiences, in an effort to further students’ understanding of their options on their post-UB careers. Experiential learning initiatives include internships, engineering intramurals, job shadowing, senior capstone design projects and design expo, undergraduate research and study abroad courses.

Student Excellence

Madeleine Dewey is a senior in the BS environmental engineering program. She has been involved with numerous projects on and off campus, and served as president of the student chapter of Engineers for a Sustainable World, an Education and Leadership Fellow in Sustainability, and Western New York Prosperity Fellow. “The environmental engineering program at UB is small enough where students can develop close relationships with their professors and peers,” says Dewey. “From organizing key sustainability initiatives on campus, to leading a club, to mentoring first-year students, to participating in a study abroad trip during my final winter session, I can say with certainty that when I graduate in May, I feel ready to tackle life’s next challenges. Thank you, CSEE!”

Isabel Hall, a junior environment engineering student, discovered environmental engineering after arriving at UB. In addition to coursework, she runs a summer science program for local youth. For the past year, Hall has conducted undergraduate research on menstrual health maintenance in low-resource regions. “Research under faculty mentorship has allowed me to explore how environmental engineering can bring social change to the developing world, and inspired me to create change in my local community,” says Hall. “The CSEE department encourages me to pursue my unique interests through departmental research, a tailored curriculum, and internship opportunities.”

Student Clubs and Activities

Our students are engaged in a variety of campus-wide activities and organizations. Some of the more popular clubs for environmental engineering students include the student chapter of Engineers for a Sustainable World, and the student chapter of the American Society of Civil Engineers. Involvement in these clubs enriches the academic experience and provides students with strong leadership opportunities, along with some great memories.

To apply, please visit admissions.buffalo.edu

World-Class Faculty

Faced with increased eutrophication of earth’s waterways and variability in renewable freshwater resources, there is an unprecedented need to reduce our impact on the aquatic environment. Assistant Professor Ian Bradley focuses on sustainable ways to treat our water and wastewater using natural microbial organisms like microalgae. Bradley’s laboratory looks at how we can use these organisms to recover nutrients from waste streams, and generate resources such as fertilizer and bioenergy. By using sustainable biological processes, this work could transform resource consuming technologies into resource producers that generate materials and energy while keeping our waterways clean.

Successful Alumni

Lisa Derrigan, PE (BS 1991, MS 1993) is a senior project engineer at GHD, an international professional services company. GHD provides engineering architecture, environmental and construction services to private and public clients throughout the markets of water, energy and resources, environment, property and buildings and transportation.

CONTACT INFO

James N. Jensen
Director of Undergraduate Studies, Professor
716.645.4007
jensen@buffalo.edu

Éva McGovern
Undergraduate Academic Coordinator
716.645.4352
cseeug@buffalo.edu