



UNIVERSITY OF CONNECTICUT

Environmental Engineering Program

Overview

University. The University of Connecticut's location on approximately 3,100 acres, in picturesque southern New England, provides a bucolic setting for the study of environmental issues. The University is within easy driving distance of major urban centers, including Hartford, Boston, and New York. Lakes, mountains, forests and the ocean are all easily accessible.

Founded in 1881, the University of Connecticut was recently ranked as one of the top 20 public universities in the nation (*U.S. News & World Report*). The University is comprised of approximately 1,700 full-time faculty and 26,000 students. The library system contains over 2.4 million volumes. Books are added at a rate of about 58,000 per year and current subscriptions to serial publications total 22,465 for the library system.

Jorgensen Auditorium on the Storrs campus regularly schedules internationally prominent productions. Jorgensen offerings are complemented by Department of Music recitals in von der Mehden Recital Hall and by Department of Dramatic Arts productions in the Nutmeg Theater. The William Benton Museum of Art has been acclaimed as one of New England's finest art museums; the diversity and quality of its exhibitions contribute to the vitality of the arts at the University. Intercollegiate and intramural athletics are also a major component of student life at the University. CONNECTICUT is a member of the Big East Athletic Conference.

Program. The Environmental Engineering Program emphasizes the mastery of fundamental scientific and socioeconomic principles in the solution of environmental quality problems. To this end, Master of Science and Doctor of Philosophy programs are offered as interdisciplinary fields of study through the School of Engineering.

Students entering the program have access to faculty and research facilities in ten departments and eight centers and institutes at the University as well as the Medical and Dental Schools. Laboratory and classroom experiences are often supplemented by fieldwork in areas relevant to a student's area of concentration, such as hazardous waste site remediation, natural resources management or oceanographic research.

Degree Programs

Approximately 25 MS and Doctoral full-time students are currently pursuing degrees in Environmental Engineering. The two-year M.S. in Environmental Engineering (30 credits) has as its primary objective the development of students understanding of the subject matter through an emphasis on either research (Plan A) or a comprehensive understanding of a more general nature (Plan B). The M.S. can lead to a professional career in environmental engineering and can be considered a prerequisite for application to Ph.D. programs.

The Professional Practice M.S. degree is a 9-month degree that has been designed for recent graduates, enabling them to rapidly enter the profession with the appropriate credentials. The Professional Practice M.S. is a broad-based program offering a terminal graduate degree.

The Ph.D. degree provides the highest level of formal preparation before entering the engineering profession. It is both competitive and challenging and offers special opportunities for learning, research and application. Doctoral study in Environmental Engineering is normally completed in three to five years. In addition to the general requirements of the Graduate School as outlined in the Graduate Catalog, each student must meet the minimum requirements of the Program as well as complete and successfully defend a dissertation.

Residential Costs

University housing for married and unmarried graduate students is available. The University Housing Office offers assistance in locating suitable housing on and off campus. Residential hall space is available at \$1,978 per semester, as is an optional meal plan for \$1,532 per semester.

Admissions Process

Admission to the Environmental Engineering Program is offered on a competitive basis to highly qualified individuals who show promise for distinguished professional and/or academic careers. A bachelor's degree in engineering from an ABET-accredited school (GPA>3.0, provisional admission for GPA<3.0 is possible) is the primary requirement for admission. Direct entry into the doctoral program with a B.S. degree is available to students with a record of exceptional academic accomplishment (GPA>3.5). Students with mathematics, natural or physical science, or other science backgrounds are encouraged to apply to the M.S. program with the understanding that, if admitted, they will be required to remedy undergraduate engineering/science deficiencies.

Application materials may be obtained from the graduate admission office. Applicants must hold a bachelor's degree or its equivalent and must submit all previous transcripts, three letters of recommendation, and a personal letter of application. The General Test of the GRE is recommended (minimum >700=quantitative), and international students from non-English-speaking countries are required to submit acceptable TOEFL scores.

Academic Facilities and Research Centers

The faculty are actively involved in government and industry sponsored research. The majority of the research is administered through the Environmental Research Institute. ERI is a university wide research center encompassing 14 full-time research and support staff, over 50 affiliate faculty from 17 academic departments, and fully equipped and staffed analytical and engineering laboratories. Additional CONNECTICUT research centers involved in environmental research include: Biotechnology Center, Center for Biochemical Toxicology, Center for Environmental Health, Center for Waterborne Diseases, Center for Biomaterials, Institute for Water Resources, Marine Science Institute, the National Undersea Research Center, Pollution Prevention Research & Development Center. Areas of current faculty research include air pollutant transport and transformations, groundwater and surface water contaminant transport, hazardous waste site remediation, physicochemical and biochemical processes, environmental biotechnology, surface and interfacial processes, and environmental hydrodynamics.

Through the Departments of Civil & Environmental, Chemical Engineering and the Environmental Research Institute over 13,000 square feet of laboratory space has been dedicated to environmental research at CONNECTICUT. ERI laboratories are among the best equipped in the nation. Major ERI analytical facilities include but are not limited to the following: an organics laboratory comprised of 3 TOC analyzers, a CHN analyzer, 3 UV-Vis scanning spectrophotometers, a FTIR spectrophotometer, a fluorescence spectrophotometer, 6 gas chromatographs, 3 gas chromatographs/mass spectrometers, 3 liquid chromatographs, a gel permeation chromatograph, an analytical ultrafiltration system, and a tandem mass spectrometer; a mercury analytical facility containing a gaschromatograph/atomic fluorescence spectrophotometer located in a class 100 clean room; an inorganics laboratory containing 1 ion chromatograph, two Zeeman graphite furnace atomic absorption spectrophotometers, 2 ICPs, an ICP/MS, a surface tension goniometer, a Hiac particle counter, and a Malvern Zetasizer. ERI also has a gravimetric analysis facility utilizing an analytical ultramicrobalance in a constant temperature and humidity environment. Engineering laboratories are equipped and staffed to conduct bench and pilot scale studies of subsurface, surface water, atmospheric and engineered environmental processes. Additional equipment available through other University facilities include: atomic force microscope, X-ray diffraction spectrometer, Auger electron microprobe, secondary ion mass spectrometer (SIMS), Mvessbauer spectrometer, X-ray photoelectron spectrometer (XPS), electron paramagnetic resonance (EPR) spectrometer, scanning and transmission electron microscopes, proton and ¹³C nuclear magnetic resonance (NMR), and Raman spectrometer.

Financial Assistance

Financial aid is available on a competitive basis through fellowships, assistantships, and other types of support by the University, industry, and governmental agencies. Assistantships may be continued through the summer on a part-time or full-time basis. Currently, the levels of support per nine-month academic year are \$15,918 for graduate assistants with a baccalaureate. \$16,754 for graduate assistants with a master's degree, and \$18,622 for graduate assistants who have a master's degree or its equivalent and who have passed the doctoral general examination. In addition, health benefits are provided, and tuition is waived for students who hold at least half-time appointments of 10 hours per week. Approximately 80% of Environmental Engineering graduate students receive funding.

The Graduate Faculty

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Detailed Program Information

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