

ENVIRONMENTAL ENGINEERING PROGRAM

UNIVERSITY OF CONNECTICUT

M.S. Degree in Environmental Engineering

The two-year M.S. in Environmental Engineering 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.

Admissions Requirements

- Minimum entering GPA of 3.0 and a B.S. degree from an accredited institution. Provisional admission is possible for Master's degree applicants with a GPA of 2.6 if evidence of strong academic and professional ability is presented.
- Three letters of recommendation, preferably from faculty with whom the candidate has worked
- Minimum GRE: Math 700

International students must present documentary evidence of ability to meet all expenses for the first year of study and an acceptable plan for financing the remainder of the program. A minimum TOEFL score of 550 is required.

Students with mathematics or natural science backgrounds may be admitted into the program, but will be required to take undergraduate engineering courses, which cannot be counted towards graduate degree requirements. The student's advisory committee will determine appropriate undergraduate courses required (see list below) to ensure proficiency in engineering fundamentals and design. The student must meet grade point requirements set forth by the Graduate School and must also complete the following courses with a minimum GPA of 3.0:

Required Remedial Courses

Applications of Engineering Economy in Design
Fluid Mechanics or Fluid Dynamics

Elective Remedial Courses

3 Courses selected from the following:

Unit Operations in Water Quality Engineering
Environmental Engineering Laboratory
Hydraulic Engineering
Engineering Hydrology
Chemical Engineering Thermodynamics I
Chemical Engineering Thermodynamics II
Transfer Operations I
Transfer Operations II
Process Kinetics
Thermodynamic Principles
Thermal Science
Pollution from Combustion
Principles of Combustion
Applied Thermodynamics
Heat Transfer

Degree Requirements

Plan A (Thesis Option)

- Minimum of 21 credits of advanced course work. Course credits may be reduced to 18 for students with prior professional background in environmental engineering.
- Successful public defense of an original thesis
- At least 12 credits from graduate level environmental engineering courses
- Two required core courses: Environmental Transport Phenomena -OR- Transfer Operations - AND- Environmental Engineering Chemistry I. A course in biochemical science or engineering is strongly recommended.
- At least one natural systems course and one engineered systems core (strongly advised)

Plan B (Non-Thesis Option)

- Minimum of 30 credits of advanced course work
- 18 or more credits selected from graduate level environmental engineering courses
- At least one course emphasizing advanced mathematics or statistics
- Two required core courses: Environmental Transport Phenomena -OR- Transfer Operations - AND- Environmental Engineering Chemistry I. A course in biochemical science or engineering is strongly recommended.
- At least one natural systems course and one engineered systems core (strongly advised)
- Completion of a final independent project (3-6 credits and an oral examination)

Professional Practice M.S. in Environmental Engineering

Following the Association of Environmental Engineering Professors' resolution that the Master's Degree is the first professional degree level for environmental engineers, this new 9-month degree 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.

Admissions Requirements

- Must hold an accredited undergraduate engineering degree with a minimum GPA of 3.0
- Minimum GRE: Math 700
- Three letters of recommendation, preferably from faculty with whom the candidate has worked

Degree Requirements

Students are required to complete 30 credits of coursework, including a 3-credit practice-oriented project. Coursework consists of the following (exceptions to this schedule must be approved by the Director of the Program):

Fall semester

Environmental Engineering Chemistry I
Transfer Operations I
Fundamentals of Microbiology
Introduction to Applied Statistics -OR- Applied Statistics
Introduction to Groundwater Hydrology

Spring semester

Environmental Physicochemical Processes
Environmental Biological Processes
Introduction to Air Pollution
Environmental Systems Analysis -OR-
Groundwater Flow Modeling
Independent Design Project

FOR MORE INFORMATION CONTACT:

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www.engr.uconn.edu/enviro

Ph.D. in Environmental Engineering

Doctoral study 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. Together with their professors and mentors, doctoral students comprise a true community of scholars. The student's advisory committee, which is responsible for overseeing the student's final achievement, is an integral part of such a community.

Doctoral study in Environmental Engineering is normally completed in three to five years, depending on individual circumstances. In addition to the general requirements of the Graduate School as outlined in the Graduate School Catalog, each student must meet the minimum requirements of the program as well as complete and successfully defend a dissertation.

Admissions Requirements

- Minimum entering GPA of 3.5
- Evidence of the ability to undertake and complete independent work of distinction
- Minimum GRE: Math 750
- International students must achieve a minimum TOEFL score of 550

Degree Requirements

- Candidates will have completed 45 credit hours in post-baccalaureate coursework.
- By the end of the first year of study, candidates must pass a three-part doctoral general examination consisting of a written exam on course materials, a written response to a research question and an oral exam.
- Not fewer than six months before the expected date of degree completion, candidates will submit to the Program for official review a prospectus outlining the proposed research as approved by an advisory committee of their choosing. Proposals are reviewed for their written and organizational competence, scope, familiarity with the subject and related research, and potential for making a relevant and original contribution to existing knowledge. The successful prospectus is filed with the Graduate School.
- Candidates will write a dissertation demonstrating their ability to formulate a hypothesis, design a protocol to test the hypothesis, and organize analyze and present an original research project in publishable form. It is commonly expected that two or three articles publishable in major refereed journals will derive from the dissertation.