

ENVIRONMENTAL ENGINEERING, MS

Department Chair

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Faculty

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Program Description

The graduate program in environmental engineering at Syracuse has earned a reputation for superior quality. Degree recipients working in government, industry, and education have made important contributions to the profession. The environmental engineering program provides coursework and research opportunities in environmental chemistry, water and wastewater treatment, applied microbiology, hydrology and water resources, sustainability, groundwater remediation, and green infrastructure.

In addition to these focus areas, the students and faculty in environmental engineering engage in interdisciplinary teaching and research, expanding the opportunities available to graduate students. The Department is home to the Center for Environmental Systems Engineering, which serves faculty in environmental, chemical, and mechanical engineering with a shared interest in environmental systems. We also have a collaborative degree program with the Maxwell School of Citizenship and Public Affairs, and we engage in joint teaching with faculty in the Whitman School of Management, and SUNY-ESF. Certificates of Advanced Studies (CAS) programs are available in Environmental Health and Sustainable Enterprise.

Admission Requirements

1. B.S. in an engineering discipline or the equivalent from an accredited institution. Candidates with undergraduate degrees in another field must have their programs evaluated to determine if additional undergraduate courses are to be included in their program of study.
2. At least a 3.0 in a 4.0 rating system or equivalent in the B.S. program coursework.
3. Satisfactory scores on all required graduate entrance examinations. A TOEFL score of 80 or higher is required for international students.
4. Departmental approval.

Student Learning Outcomes

1. Formulate and solve problems in the fundamentals of Environmental Engineering
2. Formulate and solve specialized problems in advanced fundamentals
3. Use computer programs as well as codes and standards to do analysis and design

4. Solve engineering problems in evolving complementary specialties
5. Do independent research and communicate findings

Program Requirements

The M.S. in environmental engineering is intended for students with undergraduate engineering degrees. Students without an undergraduate degree appropriate to their chosen M.S. program will be required to complete undergraduate courses to prepare themselves for M.S. coursework. These courses will be specified in the student's letter of admission and may not carry credit toward the M.S. degree.

Programs are planned by the students in consultation with their advisors. At least half of the coursework must be at or above the 600 level. At least fifteen credits must be CEE prefixed graduate level courses. Students who have taken the lower level of a double-numbered course (e.g., a course offered at the 400 and 600 levels) may not take the higher level of the same course for credit.

M.S. candidates may transfer a maximum of six credits from other institutions. They are expected to complete their entire program within five calendar years of their admission.

Thesis and non-thesis options are available.

Requirements With Thesis (30 Credits)

1. Complete three courses from Group I. (9-10 credits)

Code	Title	Credits
Group I Courses		
CEE 642	Treatment Processes in Environmental Engineering	4
CEE 671	Environmental Chemistry and Analysis	3
CEE 672	Applied Env Microbiology	3
<i>Statistics Course</i>		
(only one can count as a core course)		
APM 595	(SUNY-ESF)	3
CEE 687	Environmental Geostatistics	3
<i>Hydrology Course</i>		
(only one can count as a core course)		
CEE 659	Advanced Hydrology	3
EAR 601	Hydrogeology	3
ERE 645	(SUNY-ESF)	3

2. Complete five additional courses from Groups I and II. (15 credits)
Group II Elective Courses - Any CEE graduate course. Other graduate courses can be used as Group II electives if approved by the student's advisor.
3. Complete Master's Thesis. (6 credits)
 - a. CEE 997 Masters Thesis 0-6 credit(s)
4. Defend thesis.
5. Enroll and participate in the CEE Faculty/Student Seminar Program. (zero credits)
 - a. CEE 660 Seminar Civil Engineering 0 credit(s)

Requirements Without Thesis (30 Credits)

1. Complete three courses from Group I. (9-10 credits)

Code	Title	Credits
Group I Courses		
CEE 642	Treatment Processes in Environmental Engineering	4
CEE 671	Environmental Chemistry and Analysis	3
CEE 672	Applied Env Microbiology	3
<i>Statistics Course</i>		
(only one can count as a core course)		
APM 595		3
CEE 687	Environmental Geostatistics	3
<i>Hydrology Course</i>		
(only one can count as a core course)		
CEE 659	Advanced Hydrology	3
EAR 601	Hydrogeology	3
ERE 645		3

2. Complete seven additional courses from Groups I and II. (21 credits)
Group II Elective Courses - Any CEE graduate course. Other graduate courses can be used as Group II electives if approved by the student's advisor.
3. Complete Master's Exit Paper. (zero credits)
 - a. CEE 995 Master's Exit Paper 0 credit(s)
4. Enroll and participate in the CEE Faculty/Student Seminar Program. (zero credits)
 - a. CEE 660 Seminar Civil Engineering 0 credit(s)