

# ENVIRONMENTAL ENGINEERING SCIENCE, MS

## Department Chair

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## Program Director

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## Faculty

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## Program Description

The graduate program in environmental engineering science 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 science 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 science 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 engage in joint teaching with faculty in the School of Architecture and SUNY-ESF. Certificates of Advanced Studies (CAS) programs are available in Environmental Health and Sustainable Enterprise.

## Admission Requirements

1. B.S. in engineering, mathematics or a natural science from an accredited institution. Candidates with undergraduate degrees in other fields 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 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 Science
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. Use productivity tools in solving engineering problems

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

## Program Requirements

The M.S. in environmental engineering science is intended for students with science-based undergraduate degrees in fields other than engineering. Students with undergraduate degrees in other professional and liberal arts disciplines may 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. 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 6 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. Students anticipating further graduate study at the doctoral level should pursue the thesis option.

### Requirements With Thesis (30 Credits)

1. Completion of:
  - a. CEE 671 Environmental Chemistry and Analysis
  - b. CEE 672 Applied Env Microbiology
2. Elective coursework satisfying distributional requirements as specified in the Graduate Program Profile
3. Complete CEE 997 Masters Thesis (6 credits)
4. Defense of thesis
5. Participation in the Faculty/Student Seminar Program (CEE 660 Seminar Civil Engineering)

### Requirements Without Thesis (30 Credits)

1. Completion of:
  - a. CEE 671 Environmental Chemistry and Analysis
  - b. CEE 672 Applied Env Microbiology
2. Elective coursework satisfying distributional requirements as specified in the Graduate Program Profile.
3. Complete one of the following:
  - a. CEE 600 Selected Topics (3 credits)
  - b. CEE 996 Master's Project (3 credits)
  - c. CEE 995 Master's Exit Paper (0 credits) and one additional elective course (3 credits)
4. Participation in the Faculty/Student Seminar Program (CEE 660 Seminar Civil Engineering)