CIVIL AND ENVIRONMENTAL ENGINEERING M.S.

All students must meet the Requirements for the Master’s Degree

OVERVIEW

Graduate programs in Civil and Environmental Engineering that lead to the master of science and doctor of philosophy degrees are offered. The curricular and research programs emphasize engineering related to environmental processes, sustainable transportation systems, geotechnical, geoenvironmental and structural analysis.

Research includes: groundwater contamination; modeling and remediation including optimal remediation design; environmental restoration and ecological engineering; hydrological processes; air pollution and related health effects; modeling of contaminant fate and transport in the environment; materials; geotechnical and geoenvironmental engineering; dynamic behavior of structures and structural health monitoring; geo-energy; and sustainable transportation systems.

Graduate students of CEE can concurrently pursue certificates of graduate education in sustainable transportation systems, complex systems, and ecological economics.

SPECIFIC REQUIREMENTS

Requirements for Admission to Graduate Studies for the Degree of Master of Science

All applicants must have an undergraduate degree from a recognized university. A Bachelor of Science degree in engineering is preferred, but applicants with a B.S. degree in one of the sciences are often accepted. The latter, however, should have a minimum of the following mathematics and science course work prior to admission: three semesters of calculus, one semester of differential equations, one semester of calculus-based physics, and one semester of chemistry. Satisfactory scores on the Graduate Record Examination general (aptitude) section are also required. International students whose native language is not English or who have not received their education in English are required to submit satisfactory results from the TOEFL examination. Completed applications are due February 1.

Minimum Degree Requirements

The requirements for advancement to candidacy must be supplemented in either of the following ways:

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<th>Option A (Thesis)</th>
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<td>Completion of advanced courses in civil and environmental engineering, mathematics, and other approved disciplines, and the completion of an acceptable master’s thesis. At least thirty credits must be accumulated, six to nine of them in thesis research</td>
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Students must declare which option they intend to pursue at the beginning of their program.

Comprehensive Examination

A comprehensive examination is required of all M.S. students and must be completed before the thesis defense. For thesis option students this generally takes the form of an informal oral examination with the Studies Committee and often focuses around the basic principles behind the thesis research. This should generally take place in the semester preceding the thesis defense.

For non-thesis option students, the required format is a written examination consisting of four to six topics related to the student’s course of study. The advisor solicits written questions from instructors from the courses the student has taken. This is usually taken in the last semester of their program.

The examination may be retaken if the student does not pass it on the first attempt.

Requirements for Advancement to Candidacy for the Degree of Master of Science

Specific course work may be required of those who lack a sufficiently strong engineering background.