

Emphasis - Civil Engineering

- [M.S. in Engineering Science](#)
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M.S. in Engineering Science Description

The M.S. in engineering science is offered in a number of emphasis areas: aeroacoustics, chemical engineering, civil engineering, computational hydroscience, computer engineering, computer science, electrical engineering, electromagnetics, environmental engineering, geology, geological engineering, hydrology, mechanical engineering, material science and engineering, and telecommunications.

Minimum Total Credit Hours: 30

Course Requirements

A student must complete the requirements for an emphasis area. For most emphasis areas, the degree may be completed as a:

- Thesis option (30-hour program, to include 6 hours of thesis),
- Nonthesis option (30-hour program, to include a minimum of 3 hours of a design-oriented project course), or
- Coursework option (30-hour program, to include a final oral examination in front of a committee, but no written report)

Emphasis - Civil Engineering Description

A degree of M.S. in engineering science with emphasis in civil engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in industry, engineering research and development, public service, or for doctoral work. The program offers a choice of several concentration areas: structures, geotechnical engineering, construction materials, water resource engineering, environmental engineering, transportation systems, infrastructure asset management, and earthquake and disaster response management.

Goals/Mission Statement

The program will provide high quality graduate education in a range of civil engineering disciplines and will produce research and scholarship that is nationally recognized and supports the economic development of the state, the region, and the nation.

Course Requirements

The thesis option for the M.S. with emphasis in civil engineering requires at least 24 hours of course work and at least 6 hours of thesis credit (Engr 697-Thesis) with a thesis defense. The nonthesis option requires 27 hours of course work and a 3-hour project or research course (Engr 699-Special Projects in Engineering Science or Engr 693-Research Topics in Engineering Science) with a written report and oral presentation.

Required graduate course work for either option includes at least one course in mathematics (e.g., Engr 591-Engineering Analysis I, Math 555-Advanced Calculus I, Math 556-Advanced Calculus II, Math 575- Mathematical Statistics I); one course in numerical method (e.g., Engr 590-Finite Element Analysis); and one course in mechanics (e.g., Engr 617-Continuum Mechanics). Other graduate course work must be approved by the student's adviser.

Other Academic Requirements

For either option, a candidate must pass a final oral examination.

