

## Emphasis - Environmental Engineering

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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 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 - Environmental Engineering

#### Description

A M.S. in engineering science with emphasis in environmental 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. Students can concentrate in any of the following specialty areas: water resources, watershed systems, hydrology, surface water quality, stormwater, wastewater, solid waste, air pollution, groundwater modeling and remediation, and remote sensing and geospatial technologies. Students entering the program come from a variety of engineering and nonengineering disciplines, such as geology, chemistry, biology, and mathematics.

#### Goals/Mission Statement

The program will provide high quality graduate education in a range of environmental 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 M.S. with emphasis in environmental engineering can be completed as either a thesis or nonthesis option. The thesis option 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.

The graduate course work for either option must include 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.

