

## Emphasis - Environmental Engineering

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### **Ph.D. in Engineering Science Description**

The Ph.D. 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, and material science and engineering.

**Minimum Total Credit Hours: 54**

#### **Course Requirements**

A student must complete the requirements for one of the emphasis areas. All doctoral programs require completion of a comprehensive examination, dissertation prospectus, and a dissertation. See the department chair or adviser for specific requirements for an emphasis area.

### **Emphasis - Environmental Engineering Description**

A Ph.D. 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, or public service. Depending on their career focus, 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.

#### **Course Requirements**

The Ph.D. degree with emphasis in environmental engineering requires the following coursework:

- For students entering the Ph.D. directly from a B.S.: 36 hours of coursework and 18 hours of dissertation.
- For students entering the Ph.D. from an M.S.: 24 hours of coursework and 18 hours of dissertation.
- For students entering the Ph.D. from an M.S. at the University of Mississippi: 12 hours of coursework and 18 hours of dissertation.

Combining the student's M.S. and Ph.D. programs, at least two courses need to be in mathematics (e.g., Engr 591-Engineering Analysis I, Engr 592-Engineering Analysis II, Math 555-Advanced Calculus I, Math 556-Advanced Calculus II, Math 575-Mathematical Statistics I), one course in numerical methods (e.g., Engr 590-Finite Element Analysis), and one course in mechanics (e.g., Engr 617-Continuum Mechanics). Additional hours of Graduate Seminar may be required. Other graduate coursework must be approved by the student's advisory committee.

#### **Other Academic Requirements**

Completion of a qualifying examination, a comprehensive examination, a dissertation prospectus, and a dissertation defense is required. Before admission to candidacy, the student must pass written and oral comprehensive exams.

