

## Emphasis - Civil 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 - Civil Engineering Description

A Ph.D. in engineering science with emphasis in civil engineering prepares a student with advanced technical knowledge and communication skills for pursuing a career in engineering research and development, education, industry, or public service. 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 Ph.D. degree with emphasis in civil 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

A qualifying examination, comprehensive examination, dissertation prospectus, and dissertation defense are needed. Before admission to candidacy, the student must pass written and oral comprehensive exams.

