

# GEOTECHNICAL ENGINEERING

Geotechnical engineering is a broad-based program. Each program is specifically oriented toward an individual's interest, and should emphasize the research and development of geotechnical engineering, or the design and application aspect of geotechnical engineering. Each student's program of study must be developed before completing twelve (12) graduate credit hours. Students pursuing a M.S., M.E. or Ph.D. degree must meet with their supervising committee to fully establish their program of study. Course requirements for the master's degree are listed below.

## MASTER OF SCIENCE DEGREE

**Core Courses:** Nine (9) semester hours are required from the Core Courses list.

**Elective Courses:** A minimum of nine (9) semester hours of elective course work is required from the Elective Courses list below. Six (6) additional hours of elective course work must be taken as a research tool or supporting courses to the program of work. Course selection must result in a cohesive program that supports the thesis and must receive the approval of the student's supervising committee.

**Thesis:** Once the student is enrolled in the thesis course(s), continuous enrollment is required. The student must be enrolled in six (6) hours of thesis during the semester the student finishes the thesis requirements and files for graduation.

## MASTER OF ENGINEERING DEGREE

Twenty four (24) hours of course work must be in the major area of study.

**Core Courses:** Nine (9) semester hours of course work are required from the Core Courses list.

**Electives Courses:** A minimum of fifteen (15) semester credit hours of course work is required from the Elective Courses list below. Three (3) additional hours of elective course work must be taken as a research tool and nine (9) credit hours are required from supporting courses to the program of work. Course selection must result in a cohesive program that supports the major area and must receive the approval of the student's supervising committee. Research tool courses can be in Statistics, Computer Science, Geology, GIS area or courses approved by the student's supervising committee.

**Final Exam:** Enrollment in CE 5193, Master's Comprehensive Examination is required in the semester of graduation.

**FINAL DEGREE REQUIREMENTS** vary depending upon a student's background and experience. Student's supervising committee establishes individual's final degree requirements.

### CORE COURSES

CE 5364 Foundation Analysis and Design  
 CE 5365 Theoretical Soil Mechanics  
 CE 5370 Experimental Soil Mechanics

### ELECTIVE COURSES

CE 5336 Pavement Design  
 CE 5361 Design and Construction of Asphalt Concrete  
 CE 5362 Rigid Pavements  
 CE 5363 Constitutive Modeling of Soils  
 CE 5366 Soil Dynamics  
 CE 5367 Design of Earth Structures  
 CE 5368 Unsaturated Soil Mechanics  
 CE 5369 Computational Geotechnics  
 CE 5371 Soil Behavior  
 CE 5372 Geosynthetics  
 CE 5374 Ground Improvement  
 CE 5375 Geotechnical Aspects of Landfills  
 CE 5376 GIS in Geotechnics  
 CE 6311 Advanced Foundation Design  
 CE 6312 In Situ Testing  
 CE 6313 Design of Earth Dams

PLANNED SCHEDULE OF CLASS OFFERINGS* <i>(summer class offerings subject to change due to budget constraints)</i>	2010-2011			2011-2012			2012-2013			2013-2014			2014-2015		
	F	S	S	F	S	S	F	S	S	F	S	S	F	S	S
CE 5336 Pavement Design		D			D			D			D			D	
CE 5341 Pavement Management				D						D					
CE 5361 Design and Construction of Asphalt Concrete (CE 4336)				D						D					
CE 5362 Rigid Pavements (CE 4337)	D						D						D		
CE 5363 Constitutive Modeling of Soils			C						C						C
CE 5364 Foundation Analysis and Design (CE 4321)	D			D			D			D			D		
CE 5365 Theoretical Soil Mechanics	D			D			D			D			D		
CE 5366 Soil Dynamics	C			C			C			C			C		
CE 5367 Design of Earth Structures (CE 4320)		C			C			C			C			C	
CE 5368 Unsaturated Soil Mechanics		C						C						C	
CE 5369 Computational Geotechnics		C			C			C			C			C	
CE 5370 Experimental Soil Mechanics	C			C			C			C			C		
CE 5371 Soil Behavior					C						C				
CE 5372 Geosynthetics (CE 4322)	D			D			D			D			D		
CE 5374 Ground Improvement			D		D			D			D			D	
CE 5375 Geotechnical Aspects of Landfills (CE 4323)	C			C			C			C			C		
CE 6311 Advanced Foundation Design					D						D				
CE 6312 In Situ Testing		D			D			D			D			D	
CE 6313 Design of Earth Dams			C			C			C			C			C

The Department may change the courses offered without notice. Summer Schedule, usually available by April 1, lists available summer courses. C – On Campus Only, D – Campus & Distance Learning Course, Course number in parenthesis ( ) indicates dual course offered composite with this course.