

# **MS Program Standards/Guidelines**

## **Pavement Engineering**

Students wishing to receive an MS degree in Civil Engineering with a pavement engineering emphasis must satisfy the college and university requirements. Although an undergraduate degree in civil engineering is not required as a prerequisite to the MS program, students who do not have a BS in civil engineering will normally be required to complete those undergraduate courses which provide appropriate background. The specific and number of required courses will be decided on a case-by-case basis by the student's advisor and MS committee.

### **MS Core Courses**

With the advice and consent of the advisor and the MS committee, the student must develop an individualized, coherent program. The program must expose the student to a minimum of one course in each of the structure and geotechnical engineering areas as shown in table 1. Suggested courses emphasizing one or more disciplines among geotechnical, structural, transportation, construction management, and material sciences are listed in table 2. Courses in mechanics, geology, and statistics may also be used to complement the specific pavement courses.

**Table 1.** Pavement engineering courses

<b>Area</b>	<b>Course</b>	<b>Minimum Credits</b>
Pavement	83X	Advisor
Structure	80X	3
Geotechnical	81X	3

A maximum of 12 credits of 400-level (senior) classes can be counted toward the completion of the MS credit requirements.

**Table 2.** Typical courses in related disciplines.

AREA	Course
<p>Geotechnical</p> <p>Geotechnical Engineering            Mechanical Properties of Soils            Advanced Geotechnical Design</p>	<p>CE 418            CE 812            CE 818</p>
<p>Transportation</p> <p>Highway Design</p>	<p>CE 449</p>
<p>Structures</p> <p>Structural Mechanics            Design of Concrete Structure            Structures/Soil Dynamics            Advanced Structural Mechanics I</p>	<p>CE 400            CE 406            CE 802            CE 804</p>
<p>Material Science and Mechanics</p> <p>Continuum Mechanics            Linear Elasticity            Advanced Strength of Materials            Fracture Mechanics and Fatigue            Plasticity</p>	<p>MSM 810            MSM 813            MSM 815            MSM 816            MSM 817</p>
<p>Other Related Courses</p> <p>Statistics I            Statistics II            Probability and Statistics I            Probability and Statistics II            Boundary Value Problems for Engineers            Construction Contracts            Construction Project Management            Advanced Construction Project Management</p>	<p>STT 421            STT 422            STT 441            STT 442            MTH 443            BCM 422            BCM 423            BCM 823</p>