MASTER OF SCIENCE IN CIVIL ENGINEERING
STRUCTURES/GEOTECHNICAL/TRANSPORTATION OPTIONS

I. Core courses required in either specialty program (6 hrs):
CE 5310 - Numerical Methods in Engineering
CE 5311 - Advanced Mechanics of Solids

II. Core courses required in geotechnical program (3 hrs):
CE 5321 - Advanced Soil Engineering

III. Electives in structures, geotechnical and transportation options:
CE 5313 - Theory of Elastic Stability
CE 5314 - Theory of Plates and Shells
CE 5316 - Theory of Elasticity
CE 5318 - Finite Element Methods in Continuum Mechanics
CE 5321 - Advanced Soil Engineering I
CE 5323 - Advanced Foundation Engineering
CE 5324 - Foundation Structures
CE 5325 - Soil-Structure Interaction
CE 5326 - Analysis and Design of Earth Structures
CE 5327 - Geotechnical Practice for Waste Disposal
CE 5340 - Advanced Structural Analysis I
CE 5341 - Advanced Structural Analysis II
CE 5342 - Advanced Design of Steel Structures
CE 5343 - Advanced Reinforced Concrete Design
CE 5346 - Structural Dynamics I
CE 5347 - Structural Dynamics II
CE 5348 - Wind Engineering
CE 5351 - Advanced Pavement Materials
CE 5352 - Advanced Pavement Design
CE 5353 - Pavement Management Systems
CE 5371 - Advanced Geometric Design of Highways
CE 5372 - Advanced Traffic Engineering I: Highway Capacity Analysis
CE 5373 - Advanced Traffic Engineering II: Traffic Flow Theory and Control

IV. Research Courses:
CE 6000 - Master’s Thesis
CE 6330 - Master’s Report
CE 7000 - Research

V. Program Requirements:

<table>
<thead>
<tr>
<th>Courses Only Option</th>
<th>Thesis Option</th>
<th>Report Option</th>
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<tbody>
<tr>
<td>36 hrs – Course Work</td>
<td>24 hrs – Course Work</td>
<td>33 hrs – Course Work</td>
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<tr>
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<td>.6 hrs – Thesis</td>
<td>3 hrs – Report</td>
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<td>30 hrs – Total</td>
<td>36 hrs – Total</td>
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