Recommended courses 2012-13

Fall Semester (10 hours)
- CVEN 649 Physical and Engineering Properties of Soil (R)
- CVEN 651 Geomechanics (*R)
- 1 elective course outside geotechnical engineering

Spring Semester (9-12 hours)
- CVEN 667 Slope Stability and Retaining Structures (R)
- CVEN 687 Foundation Engineering (R)
- CVEN 646 Foundations on Expansive Soils
  and/or
- CVEN 683 Dynamic Soil Structure Interaction (***)

Notation:
- R: Required course (no substitutions allowed);
- *R: one of CVEN 651 and CVEN 647 is required. Both courses may be taken or the
  student may take one of the courses in either semester
- ***: This course counts towards the 9 credit hours outside geotechnical engineering

1. Elective Coursework outside geotechnical engineering

The following courses are some suggested electives for the MEng degree plan. You may choose
one elective from the following [note not all courses may be offered] or propose another
suitable course to your committee for approval:

- CVEN 603 Environmental Management (Spring)
- CVEN 606 Environmental Engineering Design (Fall)
- CVEN 613 Micromechanics of Civil Engineering Materials (Fall)
- CVEN 615 Structural Design of Pavements (Spring)
- CVEN 618 Environmental Engineering Processes I (Fall)
- CVEN 633 Advanced Mechanics of Materials (Fall)
- CVEN 656 Bridge Engineering (Fall)
- CVEN 657 Dynamic Loads and Structural Behavior (Fall)
- CVEN 658 Civil Applications of GIS (Fall)
- CVEN 673 Transport Phenomena in Porous Media
- CVEN 674 Groundwater Hydrology (Spring)
- CVEN 686 Offshore and Coastal Structures (Spring)
- CVEN 689 Special Topics in Stochastic Mechanics
- CVEN 752 Smart Structures (Spring)
• CVEN 753 Damage Mechanics (Spring)
• CVEN 766 Highway Design (Spring)
• GEOG 626 Fluvial Geomorphology
• GEOL 635 Engineering Geology
• GEOL 664 Mechanical Analysis in Geology
• GEOP 413 Near Surface Geophysics (Fall)
• GEOP 435 Methods of Geophysical Exploration (Fall)
• GEOP 615 Experimental Rock Deformation (Fall)
• MATH 601 Methods of Applied Mathematics I (Every Semester)
• MEMA 646 Introduction to the Finite Element Method
• MEMA 647 Theory of Finite Elements
• OCEN 672 Coastal Engineering
• OCEN 674 Ports and Harbors
• OCEN 676 Dynamics of Offshore Structures
• OCEN 688 Marine Dredging
• OCNG 430 Introduction to Geological Oceanography (Fall)
• OCNG 630 Geological Oceanography
• OCNG 670 Deep Sea Sediments
• STAT 601 Statistical Analysis (Every Semester)
• STAT 651 Statistics in Research 1 (Every Semester)
A range of courses is offered within the Zachry Department of Civil Engineering. For a full listing and description of the courses, please refer to the Graduate Course Catalog. Keep in mind that graduate courses are typically only offered once a year at most, with many of the elective courses only being offered on alternate years.

The following is a table indicating the typical course offering frequency and suggested prerequisites. Keep in mind that the actual course offering schedule may differ from the table below.

<table>
<thead>
<tr>
<th>Course</th>
<th>Prerequisites</th>
<th>Typical Frequency</th>
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<tbody>
<tr>
<td>CVEN 645 Geotechnical Site Investigations</td>
<td>365</td>
<td>Infrequently</td>
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<tr>
<td>CVEN 646 Foundations on Expansive Soils</td>
<td>365, Math 308</td>
<td>Every spring</td>
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<tr>
<td>CVEN 647 Numerical Methods in Geotechnical Engineering</td>
<td>Engr Degree</td>
<td>Fall, alternate years</td>
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<tr>
<td>CVEN 648 Advanced Numerical Methods in Geotechnical Engineering</td>
<td>651, MEMA 646</td>
<td>Fall, alternate years</td>
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<tr>
<td>CVEN 649 Physical and Engineering Properties of Soils</td>
<td>365, 435</td>
<td>Every fall</td>
</tr>
<tr>
<td>CVEN 651 Geomechanics</td>
<td>365</td>
<td>Fall, alternate years</td>
</tr>
<tr>
<td>CVEN 652 Soil Dynamics</td>
<td>Math 308</td>
<td>Spring, alternate years</td>
</tr>
<tr>
<td>CVEN 667 Slope Stability and Retaining Structures</td>
<td>365</td>
<td>Every spring</td>
</tr>
<tr>
<td>CVEN 673 Transport Phenomena in Porous Media</td>
<td>311, Math 308</td>
<td>Fall, alternate years</td>
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<tr>
<td>CVEN 683 Dynamic Soil-Structure Interaction</td>
<td>657</td>
<td>Spring, alternate years</td>
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<tr>
<td>CVEN 687 Foundation Engineering</td>
<td>365</td>
<td>Every spring</td>
</tr>
<tr>
<td>CVEN 698 Special Topics in Stochastic Mechanics</td>
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<td>Spring, alternate years</td>
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