MASTER OF SCIENCE IN GEOLOGY AND GEOLOGICAL ENGINEERING

GEOLOGICAL ENGINEERING SPECIALIZATION

General Requirements:
The student must complete the following minimum course credits:

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Thesis Degree</th>
<th>Non-Thesis Option</th>
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</thead>
<tbody>
<tr>
<td>____Coursework (500 or above)**</td>
<td>24 credits</td>
<td>32 credits</td>
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<tr>
<td>____GEOL/GEOE 798 MS Thesis (minimum)</td>
<td>6 credits</td>
<td>0 credits</td>
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<tr>
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<td>30 credits</td>
<td>32 credits</td>
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** With thesis committee approval, up to 6 credits may be out-of-department 300- or 400-level courses.

M.S. Course Work Requirements for Geological Engineering Specialization

The candidate’s committee is responsible for assisting the student in developing a program of study that prepares the student for his/her intended field.

Course Requirements:

____GEOL 700 Research Methods (to be taken first fall semester of enrollment)

____GEOL/GEOE course emphasizing field methods fulfilled by ___________

____GEOL/GEOE course emphasizing analytical methods fulfilled by ___________

____GEOL/GEOE course emphasizing computational methods fulfilled by ___________

Three focus areas are offered to M.S. candidates in the Geological Engineering Specialization. The recommended courses for each area are listed below.

**Ground Water and Environmental Focus:**

Recommended:

____GEOE 641 Geochemistry
____GEOE 663 Ground Water Geochemistry
____GEOE 664 Advanced Ground Water
____GEOE 682 Fluvial Processes
____GEOE 766 Digital Modeling of Ground Water
____GEOL 517 Geospatial Databases
____GEOL 519 Advanced Geospatial Analysis
____GEOL 633 Sedimentation
____CEE 519 Environmental Eng Process Design
____CEE 521 Environmental Systems Analysis
____CEE 634 Surface Water Hydrology
____CEE 730 Statistical Methods Water Resources
____CEE 731 Topics in Water Quality Assessment

Recommended:

____CEE 643 Advanced Soil Mechanics I
____CEE 645 Advanced Foundations
____CEE 646 Stability of Soil and Rock Slopes
____CEE 647 Earth Retaining Structures
____MEM 525 Advanced Rock Mechanics
____MEM 533 Comp. Apps Geoscience Modeling
____MEM 550 Rock Slope Engineering

**Energy and Mineral Resources Focus:**

Recommended:

____GEOE 641 Geochemistry
____GEOE 663 Groundwater Geochemistry
____GEOE 576 Petroleum Geology
____GEOE 652 Problems in Ore Deposits
____GEOE 633 Sedimentation
____GEOE 650 Seminar in Ore Deposits
____CEE 627 Treatment, Disposal, and Management of Hazardous Waste
____CEE 784 Modeling and Comp. in Civil Engineering
____MEM 533 Comp Apps Geoscience Modeling