MASTER OF SCIENCE IN GEOLOGY AND GEOLOGICAL ENGINEERING

GEOLOGICAL ENGINEERING SPECIALIZATION

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

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<th>Thesis Degree</th>
<th>Non-Thesis Option</th>
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<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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** 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 Groundwater Geochemistry
____ GEOE 664 Advanced Groundwater
____ GEOE 682 Fluvial Processes
____ GEOE 766 Digital Modeling of Groundwater
____ 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

** Energy and Mineral Resources Focus:**

Recommended:

____ GEOE 641 Geochemistry
____ GEOE 663 Groundwater Geochemistry
____ GEOL 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

** Geomechanics Focus:**

Recommended:

____ GEOE 566 Engineering and Env Geology
____ GEOE 664 Advanced Groundwater
____ GEOE 768 Eng Geology of Surficial Deposits
____ GEOL 633 Sedimentation
____ 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