

Checklist for \_\_\_\_\_ by \_\_\_\_\_ Date: \_\_\_\_\_

## MASTER OF SCIENCE IN GEOLOGY AND GEOLOGICAL ENGINEERING

### GEOLOGICAL ENGINEERING SPECIALIZATION

#### General Requirements:

The student must complete the following minimum course credits:

	<u>Thesis Degree</u>	<u>Non-Thesis Option</u>
___ Coursework (500 or above)**	24 credits	32 credits
___ GEOL/GEOE 798 MS Thesis (minimum)	6 credits	0 credits
	<hr/> 30 credits	<hr/> 32 credits

\*\* With thesis committee approval, up to 6 credits may be 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

#### **Geomechanics Focus:**

##### Recommended:

- \_\_\_ GEOE 566 Engineering and Env Geology
- \_\_\_ GEOE 664 Advanced Ground Water
- \_\_\_ 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

#### **Energy and Mineral Resources Focus:**

##### Recommended:

- \_\_\_ GEOE 641 Geochemistry
- \_\_\_ GEOE 663 Groundwater Geochemistry
- \_\_\_ GEOL 576 Petroleum Geology
- \_\_\_ GEOL 652 Problems in Ore Deposits
- \_\_\_ GEOL 633 Sedimentation
- \_\_\_ GEOL 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