Geology, M.S.

Master of Science

Degree Requirements

• Completed Plan of Study
• Credit Hours: Students are required to complete a minimum of 32 graduate credit hours at the 400, 500 or 600 level
• Grade Point Average: Students must earn minimum overall GPA of a 3.0 and a minimum GPA of 3.0 in coursework applied to their graduate program.
• Degree Requirements:
  • Complete a plan of study
  • Complete 24 formal (graded) course credit hours
  • At least 15 of the 24-required formal course credits taken from GEOL and GEOG
  • Courses outside of GEOL and GEOG to be approved by the student’s advisor unless they are on the approved list of outside courses
• Completion Requirements: students must select a completion track for a total of 8 credits. Available tracks are the
  • Research track: students must complete a Master’s thesis including:
    • Thesis Proposal Defense
    • Thesis Defense
  • Professional studies track: students have the option of completing an internship, completing a project with a faculty member, taking the ASBOG Fundamental exam (first step in professional licensure), additional coursework, or a combination of these options.

Curriculum Requirements

Core Requirements

Any GEOL courses at the 400, 500 or 600 level* 15

Electives

Select three courses from the list below:

Any additional GEOL courses at the 400, 500 or 600 level** 9

AEM 401 Environmental Microbiology
AGRN 417 Soil Genesis and Classification
AGRN 455 Reclamation of Disturbed Soils
AGRN 552 Pedology
ENVP 460 Environmental Impact Assessment
ENVP 515 Hazardous Waste Training
ENVP 555 Environmental Sampling and Analysis
FHYD 444 Watershed Management
FHYD 655 Watershed Hydrology
PNGE 632 Reservoir Simulation and Modeling
PNGE 735 Advanced Formation Evaluation
RESM 444 Advanced GIS for Natural Resource Management
RESM 480 Environmental Regulation
RESM 540 Geospatial Modeling
RESM 545 Spatial Hydrology and Watershed Analysis
STAT 511 Statistical Methods 1
STAT 512 Statistical Methods 2
WMAN 446 Freshwater Ecology
WMAN 547 Applied Wetlands Ecology and Management

GRADUATION TRACK

Select one track:

Research Track:

GEOL 697 Research
GEOL 699 Graduate Colloquium

Professional Studies Track:
Core Courses:
Select one option or a combination of options below:

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>GEOL 682</td>
<td>Masters: Professional Studies Track Cohort Seminar (taken first semester in program)</td>
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<tr>
<td>GEOL 699</td>
<td>Graduate Colloquium</td>
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Internship:

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<th>Course Code</th>
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<tr>
<td>GEOL 681</td>
<td>Grad Internship in Geology</td>
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Project:

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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>GEOL 680</td>
<td>Masters Project Research</td>
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Professional Licensure:

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<th>Course Code</th>
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<td>Any GEOL course(s) at the 400, 500 or 600 level</td>
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Total Hours 32

* no more than 40% of courses may be at the 400 level (WVU requirement)
** Except GEOL 680, 681, 697, 699.

Major Learning Outcomes

GEOLOGY

Students obtaining a masters in Geology with a Research Track will be able to:

- Communicate geologic concepts orally and in writing
- Apply research skills to analyze geologic questions
- Propose, produce and defend original research in their field of study
- Explain geologic principles as they relate to their area of research

Students obtaining a masters in Geology with a Professional Studies Track will be able to:

- Communicate geologic concepts orally and in writing
- Demonstrate knowledge in either energy geology or environmental geology
- Apply geological knowledge and methods to (1) find, develop and produce energy resources particularly natural gas, natural gas liquids and oil; OR, (2) to assess environmental issues