

Geology, M.S.

Degree Requirements

- **Completed Plan of Study**
- **Credit Hours:** All students are required to complete a minimum of 32 graduate credit hours at the 400, 500 or 600 level. Students who elect to complete a thesis will typically earn additional credit hours.
- **Grade Point Average:** Students must earn a minimum cumulative GPA of 3.0 and a minimum GPA of 3.0 in courses applied to the degree.
- **Degree Requirements:**
 - Complete a plan of study
- **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

Code	Title	Hours
Core Requirements		15
Any GEOL courses at the 400, 500 or 600 level*		
Electives		9
Select three courses from the list below:		
Any additional GEOG or GEOL courses at the 400, 500 or 600 level**		
AEM 401	Environmental Microbiology	
ESWS 417 & 417L	Soil Genesis and Classification and Soil Genesis and Classification Laboratory	
ESWS 455	Reclamation of Disturbed Soils	
ESWS 460 & 460L	Environmental Impact Assessment and Environmental Impact Assessment Laboratory	
ESWS 515 & 515L	Hazardous Waste Training and Hazardous Waste Training Laboratory	
ESWS 552	Pedology	
ESWS 555	Environmental Sampling and Analysis	
FNRS 444	Watershed Management	
FNRS 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		8
Select one track:		
Research Track:		
GEOL 697	Research (students must complete 6 credit hours)	
GEOL 696	Graduate Seminar (students must complete 2 credit hours)	
Professional Studies Track: ***		
Core Courses:		

GEOL 682	Masters: Professional Studies Track Cohort Seminar (taken first semester in program)
GEOL 696	Graduate Seminar
Select one option or a combination of the options below:	
Project:	
GEOL 680	Masters Project Research
Internship:	
GEOL 681	Grad Internship in Geology
Professional Licensure:	
Any GEOL course(s) at the 400, 500 or 600 level	
GEOL 696	Graduate Seminar
Total Hours	32

*
No more than 40% of courses may be at the 400 level (WVU requirement) and excludes GEOL 790.

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Except GEOL 680, 681, 697, 790.

The professional studies track is completed in part by 1 hour of GEOL 682 and 1 hour of GEOL 696. The remaining 6 credits may be satisfied one or a combination of the following options: additional GEOL 696 credits, Internship, Research Project, Licensure, or additional GEOL coursework at the 500 or 600 level.

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