

**Master of Science in Earth and Environmental Sciences**  
**Geology Option (45 units minimum)**  
**Degree Requirements**

<b>Core Courses (20-21)</b>		
<a href="#">CHEM 610</a>	Advanced Environmental Chemistry	5
<a href="#">GEOL 610</a>	Environmental Geosciences	5
<a href="#">GEOL 690</a>	Graduate Seminar in Environmental Sciences	2
GEOL 695D-E	Supervised Graduate Study in Geology	4-5
<a href="#">GEOL 699</a>	Graduate Thesis	4
<b>Electives (25)</b>		
A minimum of 25 units, at least 12 of which are graduate level courses.		25
Undergraduate Electives:		
(Some of these elective courses have prerequisites that must be satisfied before the course can be taken)		
<a href="#">CHEM 345</a>	Modern Quantitative Analysis	
<a href="#">GEOG 402</a>	Geographic Information Systems Applications	
<a href="#">GEOL 375</a>	Groundwater Hydrology	
<a href="#">GEOL 376</a>	Field Methods in Hydrology	
<a href="#">GEOL 430</a>	Engineering Geology	
Graduate Electives:		
<a href="#">CHEM 501A</a>	Advanced Laboratory Techniques	
<a href="#">CHEM 501B</a>	Advanced Laboratory Techniques	
<a href="#">CHEM 545</a>	Instrumental Analysis	
<a href="#">GEOL 540</a>	Advanced Topics in Geology	
<a href="#">GEOL 545A</a>	Laboratory for Advanced Topics in Geology	
<a href="#">GEOL 545B</a>	Laboratory for Advanced Topics in Geology	
<a href="#">GEOL 550</a>	Earth Resources	
<a href="#">GEOL 551</a>	Neotectonics and Seismic Hazard Analysis	
<a href="#">GEOL 552</a>	Volcanology and Volcanic Hazard Assessment	
<a href="#">GEOL 553</a>	Advanced Structural Geology	
GEOL 575B-D	Internship in Geology	
<a href="#">GEOL 591</a>	Digital Mapping and GIS for Scientists	
GEOL 595A-F	Independent Study	
<a href="#">GEOL 621</a>	Graduate Geological Mapping	
<a href="#">GEOL 630</a>	Environmental Geochemistry	
<a href="#">GEOL 635</a>	Low-temperature Geochemistry	
GEOL 691B-D	Graduate Independent Study	
GEOL 696A-F	Graduate Project	
<b>Total Units</b>		<b>45-46</b>