GEOLOGICAL ENGINEERING M.S.

Admission Requirements

Complete the following admission requirements:

- Submit GRE scores. The GRE requirement is waived for any applicant graduating with a 3.0 GPA or higher from an ABET-accredited CE or GE BS program.
- Complete one of the following admission requirements:
  - Complete a bachelor's degree in geological engineering;
  - Complete a bachelor's degree in engineering and complete the following courses:

Code	Title	Credits
GE F326	Introduction to Geotechnical Engineering and Foundations	3-4
or MIN F370	Rock Mechanics	
GE F405 and GE F420	Engineering and Environmental Geophysics and Groundwater Engineering	6
Complete one of the following:		6-8
GEOS F262 and GEOS F332	Rocks and Minerals and Ore Deposits and Structure	
GEOS F322 and GEOS F314	Stratigraphy and Sedimentation and Structural Geology	

  - Complete a bachelor's degree in geology and complete the following courses:

Code	Title	Credits
ES F208	Mechanics	4
ES F331	Mechanics of Materials	3
ES F341	Fluid Mechanics	4
GE F326	Introduction to Geotechnical Engineering and Foundations	3-4
or MIN F370	Rock Mechanics	
GE F405	Engineering and Environmental Geophysics	3
GE F420	Groundwater Engineering	3
MIN F390	Geostatistics and Mineral Economics	3

  - Complete a bachelor's degree in the natural sciences and complete the following courses:

Code	Title	Credits
ES F208	Mechanics	4
ES F331	Mechanics of Materials	3
ES F341	Fluid Mechanics	4
GE F326	Introduction to Geotechnical Engineering and Foundations	3-4
or MIN F370	Rock Mechanics	
GE F405	Engineering and Environmental Geophysics	3
GE F420	Groundwater Engineering	3
MIN F390	Geostatistics and Mineral Economics	3
Complete one of the following:		6-8
GEOS F262 and GEOS F332	Rocks and Minerals and Ore Deposits and Structure	
GEOS F322 and GEOS F314	Stratigraphy and Sedimentation and Structural Geology	

Program Requirements

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Minimum Requirements for Geological Engineering M.S. Degree (Thesis Option): 30 credits

THESIS OPTION

Code	Title	Credits
General University Requirements		
Complete the graduate general university requirements. (https://catalog.uaf.edu/masters/#gurmastersdegreestext)		
Master's Degree Requirements		
Complete the master's degree requirements. (https://catalog.uaf.edu/masters/#masterofsciencethesis)		
As part of the master's degree requirements, complete the following:		
GE F699	Thesis	6
Geological Engineering with Thesis Program Requirements		
Complete four of the following:		12
GE F420	Groundwater Engineering	
GE F430	Geomechanical Instrumentation	
GE F440	Slope Stability	
GE F620	Advanced Groundwater Hydrology	
GE F622	Advanced Soil Physics	
GE F624	Stochastic Hydrology and Geohydrology	
GE F626	Thermal Geotechnics	
GE F635	Advanced Geostatistical Applications	
GE F665	Advanced Geological Materials Engineering	
GE F666	Advanced Engineering Geology	
GE F668	Tunneling Geotechniques	
MIN F621	Advanced Mineral Economics	
MIN F673	Advanced Rock Mechanics	
Geological engineering courses and technical electives		11
GE F692	Graduate Seminar	1
Total Credits		**30**

Minimum Requirements for Geological Engineering M.S. Degree (Non-thesis Option): 33 credits

NON-THESIS OPTION

Code	Title	Credits
General University Requirements		
Complete the graduate general university requirements. (https://catalog.uaf.edu/masters/#gurmastersdegreestext)		
Master's Degree Requirements		
Complete the master's degree requirements. (https://catalog.uaf.edu/masters/#masterofscienceproject)		
As part of the master's degree requirements, complete the following:		
GE F698	Non-thesis Research/Project	6
Geological Engineering Non-thesis Program Requirements		
Complete five of the following:		15
GE F420	Groundwater Engineering	
GE F430	Geomechanical Instrumentation	
GE F440	Slope Stability	
GE F620	Advanced Groundwater Hydrology	
GE F622	Advanced Soil Physics	
GE F624	Stochastic Hydrology and Geohydrology	
GE F626	Thermal Geotechnics	
GE F635	Advanced Geostatistical Applications	
GE F665	Advanced Geological Materials Engineering	
GE F666	Advanced Engineering Geology	
GE F668	Tunneling Geotechniques	
MIN F621	Advanced Mineral Economics	
MIN F673	Advanced Rock Mechanics	
Geological engineering courses and technical electives		11
GE F692	Graduate Seminar	1
Total Credits		**33**