M.S., GEOLOGICAL ENGINEERING

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
Complete the following:		
GE F365	Geological Materials Engineering	3
or MIN F370	Rock Mechanics	
GE F405 and GE F420	Exploration Geophysics and Subsurface Hydrology	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 F365	Geological Materials Engineering	3
or MIN F370	Rock Mechanics	
GE F405	Exploration Geophysics	3
GE F420	Subsurface Hydrology	3
MIN F408	Mineral Valuation and Economics	3

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

Code	Title	Credits
ES F208	Mechanics	4
ES F331	Mechanics of Materials	3
ES F341	Fluid Mechanics	4
GE F365	Geological Materials Engineering	3
or MIN F370	Rock Mechanics	
GE F405	Exploration Geophysics	3
GE F420	Subsurface Hydrology	3
MIN F408	Mineral Valuation and 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	

Submit GRE scores.

Thesis Option

Minimum Requirements for Degree: 30 credits

Code	Title	Credits
General University Requirements		
Complete the general university requirements. (http://catalog.uaf.edu/archives/2018-2019/graduate)		
Master's Degree Requirements		
Complete the master's degree requirements. (http://catalog.uaf.edu/archives/2018-2019/graduate/#Masters)		
Thesis Requirements		
Complete four from the following:		12
GE F430	Geomechanical Instrumentation	
GE F440	Slope Stability	
GE F610	Subsurface Hydrology	
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
GE F699	Thesis	6

Non-Thesis Option

Minimum Requirements for Degree: 33 credits

Code	Title	Credits
General University Requirements		
Complete the general university requirements. (http://catalog.uaf.edu/archives/2018-2019/graduate)		
Master's Degree Requirements		
Complete the master's degree requirements. (http://catalog.uaf.edu/archives/2018-2019/graduate/#Masters)		
Non-Thesis Requirements		
Complete five from the following:		15
GE F430	Geomechanical Instrumentation	
GE F440	Slope Stability	
GE F610	Subsurface Hydrology	
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
GE F698	Non-thesis Research/Project	6