GEOLOGY - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF SCIENCE IN GEOLOGY

This program is designed to quickly prepare exceptional students who would like to either enter into the job market with an advanced degree or apply to PhD programs.

The combined program in Geology is a 5-year path leading to a Bachelor of Science (BS) and a Master of Science (MS) in Geology. Because the MS degree requires a thesis, it is highly recommended that interested students become involved in research project early in the undergraduate career. Areas of opportunity for research at both the undergraduate and MS levels include groundwater flow and use, paleontology and paleoecology, stratigraphy, structural geology, tectonophysics, petrology, geomorphology, environmental geology and geochemistry.

Application and Eligibility

- Students may apply for entrance to the graduate program when they reach 90 hours applied to their degree program, normally in the spring of their junior year.
- Applicants to this program are not required to submit GRE, but they must submit two letters of advocacy from faculty members, one of whom is willing to serve as the MS thesis advisor.
- Students admitted into the combined program must finish the entire 150 credit hours to obtain both the Bachelor's and Master's degrees. These students will be conferred with two degrees once they complete all requirements.
- Students not accepted into the combined program will complete the 120 hour Bachelor's degree under the standard 4 year curriculum. These students may still apply to the traditional graduate program.

Program Requirements

First Year		
Fall		**Semester Credit Hours**
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
GEOL 150	Introduction to the Solid Earth	4
GEOL 180	Introduction to Geology and Geophysics	1
MATH 151	Engineering Mathematics I	4
	Semester Credit Hours	**16**
Spring		
CHEM 120	Fundamentals of Chemistry II	4
GEOL 152	History of the Earth	4
MATH 152	Engineering Mathematics II	4
Communication (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
	Semester Credit Hours	**15**
Second Year		
Fall		
GEOL 203	Mineralogy	4
GEOL 210	Geological Communication	3
MATH 251	Engineering Mathematics III	3
PHYS 206	Newtonian Mechanics for Engineering and Science	3
PHYS 226	Physics of Motion Laboratory for the Sciences	1
Government/Political science (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)		3
	Semester Credit Hours	**17**
Spring		
GEOL 250	Geological Field Methods	4
GEOL 304	Igneous and Metamorphic Petrology	4
MATH 308	Differential Equations	3
PHYS 207	Electricity and Magnetism for Engineering and Science	3
PHYS 227	Electricity and Magnetism Laboratory for the Sciences (Technical Electives) [2]	1
Technical electives [2]		1
	Semester Credit Hours	**16**
Summer		
Technical electives [2]		3
	Semester Credit Hours	**3**
Third Year		
Fall		
GEOL 306	Sedimentology and Stratigraphy	4
GEOP 341	Fundamentals of Geophysics	3
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Government/Political science (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)		3
Language, philosophy and culture (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) [1]		3
	Semester Credit Hours	**16**
Spring		
GEOL 312	Structural Geology and Tectonics	4
GEOL 314	Paleontology and Geobiology	4
GEOL 350	Summer Field Geology	3
Technical electives [2]		8
	Semester Credit Hours	**19**
Summer		
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
	Semester Credit Hours	**3**
Fourth Year		
Fall		
GEOL 450	Geology Senior Project	3

Creative arts (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) [1]	3
Social and behavioral sciences (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences) [1]	3
Technical electives [2]	6
Semester Credit Hours	**15**
Spring	
Graduate electives [3]	12
Semester Credit Hours	**12**
Fifth Year	
Fall	
Graduate electives [3]	9
Semester Credit Hours	**9**
Spring	
Graduate electives [3]	9
Semester Credit Hours	**9**
Total Semester Credit Hours	**150**

1. The Graduation requirements include a requirement for three hours of International and Cultural Diversity courses and three hours of Cultural Discourse courses. A course satisfying a Core category, a college/department requirement, or a free elective can be used to satisfy this requirement. See academic advisor.
2. Any science, math or engineering course that augments the degree with the approval of the advisor. At least four credits should be GEOL 491 Research.
3. The MS degree Non-Thesis Option is 36 total hours, with 6 hours double-counting with the undergraduate Technical Electives. The MS with Thesis Option is 32 hours, with 2 hours double-counting with Technical Electives. Graduate courses may be in Geology, Geophysics or a supporting math or science area, chosen with approval of the student's advisory committee. Students in the Thesis Option may include up to 8 hours of Research courses.

The program includes a total of 152 or 156 hours which up to 2 or 6 hours may be applied toward both the Bachelor of Science in Geology and the Master of Science in Geology.