

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

Program Requirements

First Year

		Semester Credit Hours
Fall		
CHEM 107	General Chemistry for Engineering Students	3
CHEM 117	General Chemistry for Engineering Students Laboratory	1
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

GEOL 152	History of the Earth	4
MATH 152	Engineering Mathematics II	4
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)		3
Semester Credit Hours		14

Second Year

		Semester Credit Hours
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
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		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

American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)	3
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Semester Credit Hours	3
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Third Year

Fall

GEOL 306	Sedimentology and Stratigraphy	4
GEOP 341	Fundamentals of Geophysics	3
MATH 311	Topics in Applied Mathematics I	3
PHYS 221	Optics and Thermal Physics	3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)		3

Semester Credit Hours	16
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Spring

GEOL 312	Structural Geology and Tectonics	4
GEOP 313	Geophysical Field Methods	4
GEOP 361	Geophysical Signal Processing	3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) ¹		3
Social and behavioral science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-science) ¹		3

Semester Credit Hours	17
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Summer

Technical elective ²	3
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Semester Credit Hours	3
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Fourth Year

Fall

GEOL 450	Geology Senior Project	3
GEOP 421	Seismology	4
GEOP 413	Near-surface Geophysics	3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ¹		3
Geophysics elective ³		3
Technical elective		2

Semester Credit Hours	18
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Spring

Graduate electives ⁴	12
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Semester Credit Hours	12
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Fifth Year

Fall

Graduate electives ⁴	9
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Semester Credit Hours	9
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Spring

Graduate electives ⁴	9
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Semester Credit Hours	9
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Total Semester Credit Hours	150
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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/departmental 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 Any Geophysics course.

⁴ The MS degree is either Non-Thesis Option (36 total hours, with 6 hours double-counting with the undergraduate Technical Electives) or Thesis Option (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 Geophysics and the Master of Science in Geophysics.