

GEOLOGY - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF OCEAN SCIENCE AND TECHNOLOGY

The program offers motivated and exceptional students the opportunity to achieve aspirations in an efficient 5-year combined program at Texas A&M, completing either the Bachelor of Science (BS) or Bachelor of Arts (BA) degree (in the Department of Geology and Geophysics) and the non-thesis Master of Ocean Science and Technology (in the Department of Oceanography). The concurrent degree program will enable these motivated students to coordinate the required BA/BS coursework and Master of Ocean Science and Technology coursework to complete the required credit hours for each degree without diminishing scope or quality of work and within 5 years.

Application and Eligibility:

- Applications to the combined program will be submitted by June 15 after the completion of the student's junior year. Applications submitted after that time will be evaluated on a case by case basis. Once admitted to the program, students must maintain a minimum 3.0 GPA on all graduate coursework.
- Applicants must have a minimum undergraduate GPA of 3.25. Applicants should also earn a C or better in all Chemistry, Calculus and Physics courses. Once admitted to the program, students must maintain a minimum 3.0 GPA on all graduate coursework.
- A faculty advisor will be assigned to each student. Students may seek additional mentors, but a formal committee is not required.
- Students admitted into the combined program must finish the entire 150 credit hours to obtain both the Bachelor's and Master's degrees. Students will graduate at the completion of the 5th year in the combined program coursework (150 credit hours) with both Bachelor's and Master's degrees.
- Students admitted to the program will change from U4 to G7 status when they are admitted having completed at least 90 hours (end of spring semester, year 3).
- Students not accepted or not allowed to continue with 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

		Semester Credit Hours
Fall		
CHEM 119	Fundamentals of Chemistry I	4
GEOL 104	Physical Geology	4
MATH 151	Engineering Mathematics I	4
ENGL 104	Composition and Rhetoric	3
	Semester Credit Hours	15
Spring		
CHEM 120	Fundamentals of Chemistry II	4
GEOL 106	Historical Geology	4

MATH 152	Engineering Mathematics II	4
	Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)	3

Semester Credit Hours 15

Second Year

Fall

GEOL 203	Mineralogy ¹	4
GEOL 311	Principles of Geological Writing ^{1,2}	1
GEOP 341	Fundamentals of Geophysics ¹	3
MATH 251	Engineering Mathematics III ¹	3
PHYS 206	Newtonian Mechanics for Engineering and Science	3

PHYS 226	Physics of Motion Laboratory for the Sciences	1
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Semester Credit Hours 15

Spring

GEOL 302	Introduction to Petrology ¹	4
GEOL 306	Sedimentology and Stratigraphy ¹	4
MATH 308	Differential Equations ¹	3
PHYS 207	Electricity and Magnetism for Engineering and Science	3

PHYS 227	Electricity and Magnetism Laboratory for the Sciences	1
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Select one of the following: ³ 3

American history (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history>) ¹

Government/Political science (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science>) ¹

Semester Credit Hours 18

Third Year

Fall

GEOL 304	Igneous and Metamorphic Petrology ¹	4
GEOL 305	Paleobiology ¹	3
GEOL 451	Introduction to Geochemistry ¹	3

	Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)	3
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Select one of the following: ³ 3

American history (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history>) ¹

Government/Political science (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science>) ¹

Semester Credit Hours 16

Spring

GEOL 309	Introduction to Geological Field Methods	3
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GEOL 312	Structural Geology and Tectonics ^{1,2}	4
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GEOL Elective ^{1,2,4}		4
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Technical elective ⁴		3
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Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) ¹	3
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Semester Credit Hours	17
Summer	
GEOL 300 Field Geology	6
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Semester Credit Hours	6
Fourth Year	
Fall	
OCNG 604 Ocean Observing Systems ⁵	3
OCNG 608 Physical Oceanography ⁵	3
Select one of the following: ³	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)	
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)	
Select one from:	3
OCNG 620 Biological Oceanography	
OCNG 630 Geological Oceanography	
OCNG 640 Chemical Oceanography	
Social and behavioral sciences (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences)	3
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Semester Credit Hours	15
Spring	
OCNG 603 Communicating Ocean Science	3
OCNG 657 Data Methods and Graphical Representation in Oceanography ⁶	3
Select one of the following: ³	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)	
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science)	
Select one from:	3
OCNG 620 Biological Oceanography	
OCNG 630 Geological Oceanography	
OCNG 640 Chemical Oceanography	
Technical elective ⁴	3
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Semester Credit Hours	15
Fifth Year	
Fall	
Advanced specialized OCNG graduate courses	9
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Semester Credit Hours	9
Spring	
OCNG 661 Advanced Oceanographic Data Analysis and Communication	3
Advanced specialized OCNG graduate courses	6
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Semester Credit Hours	9
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Total Semester Credit Hours	150

¹ Any of the required courses may be taken during the Summer Sessions to diminish the heavy semester loads during Years Two and Three.

² A second W course is required. GEOL 312 is offered as a W option when taught by Dr. Julie Newman, and other GEOL electives also fulfill the W requirement (including GEOL 491 when arranged with the permission of the instructor).

³ Students must complete 6 credit hours of American history and 6 credit hours of government/political science.

⁴ Select in consultation with advisor.

⁵ Two graduate courses will be taken for dual undergraduate/graduate credit.

⁶ Students will not be permitted to receive credit for both undergraduate-level and graduate-level versions of stacked courses because the content and learning outcomes are too similar (e.g., OCNG 404/OCNG 604; OCNG 456/OCNG 656)."