ENVIRONMENTAL GEOSCIENCE - 5-YEAR BACHELOR OF SCIENCE AND MASTER OF OCEAN SCIENCE AND TECHNOLOGY

Program Requirements

First Year

Fall		Semester Credit Hours
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
GEOS 105	Introduction to Environmental Geoscience	3
MATH 151	Engineering Mathematics I	4
	Semester Credit Hours	**14**
Spring		
CHEM 120	Fundamentals of Chemistry II	4
GEOS 205	Environmental Geosciences Cornerstone	1
MATH 152	Engineering Mathematics II	4
POLS 206	American National Government	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) [1]		3
	Semester Credit Hours	**18**

Second Year

Fall		
BIOL 111	Introductory Biology I	4
GEOG 201	Introduction to Human Geography	3
Select one of the following:		4
ATMO 201 & ATMO 202	Weather and Climate and Weather and Climate Laboratory	
GEOG 203 & GEOG 213	Planet Earth and Planet Earth Lab	
GEOL 101 & GEOL 102 or GEOL 150	Principles of Geology or Introduction to the Solid Earth	
OCNG 251 & OCNG 252	The Blue Planet - Our Oceans and The Blue Planet - Our Oceans Laboratory	
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Environmental policy elective [2]		3
	Semester Credit Hours	**17**
Spring		
BIOL 112	Introductory Biology II	4
POLS 207	State and Local Government	3
Select one of the following:		4
ATMO 201 & ATMO 202	Weather and Climate and Weather and Climate Laboratory	
GEOG 203 & GEOG 213	Planet Earth and Planet Earth Lab	
GEOL 101 & GEOL 102 or GEOL 150	Principles of Geology or Introduction to the Solid Earth	
OCNG 251 & OCNG 252	The Blue Planet - Our Oceans and The Blue Planet - Our Oceans Laboratory	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Coastal and marine environments theme elective [2,3]		3
	Semester Credit Hours	**17**

Third Year

Fall		
GEOG 330	Resources and the Environment	3
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	4
STAT 211	Principles of Statistics I	3
Coastal and marine environments theme elective [2,3]		6
	Semester Credit Hours	**16**
Spring		
GEOL 420	Environmental Geology	3
OCNG 470	Data Analysis Methods in Geosciences	4
PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences	4
Creative Arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) [1]		3
Environmental policy elective [2]		3
	Semester Credit Hours	**17**

Fourth Year

Fall		
GEOG 390	Principles of Geographic Information Systems [6]	4
GEOS 405	Environmental Geosciences	3
OCNG 604	Ocean Observing Systems [3,5]	3
OCNG 608	Physical Oceanography [3,4,5]	3
OCNG 603	Communicating Ocean Science	3
	Semester Credit Hours	**16**
Spring		
OCNG 657	Data Methods and Graphical Representation in Oceanography [4]	3
Fundamentals of ocean science		6

Select two of the following: [4]		
OCNG 620	Biological Oceanography	
OCNG 630	Geological Oceanography	
OCNG 640	Chemical Oceanography	
Coastal and marine environments theme elective [2,3]		3
Technical elective [2]		5
	Semester Credit Hours	**17**
Fifth Year		
Fall		
Advanced specialized OCNG graduate course		3
Advanced specialized OCNG graduate course		3
Advanced specialized OCNG graduate course		3
	Semester Credit Hours	**9**
Spring		
OCNG 661	Advanced Oceanographic Data Analysis and Communication	3
Advanced specialized OCNG graduate course		3
Advanced specialized OCNG graduate course		3
	Semester Credit Hours	**9**
	Total Semester Credit Hours	**150**

1. The graduation requirements include three hours of international and cultural diversity (http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and three hours of cultural discourse (http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/) courses.
2. Select in consultation with advisor.
3. If students use nine credits of allowed OCNG courses (e.g., OCNG 350, OCNG 451, OCNG 485) as Coastal and Marine Environments theme electives, they will receive an OCNG minor with their BS in ENGS degree. If one of the Introductory Geoscience course and associated labs listed in Year Two is OCNG 251 with OCNG 252, then only two (six credits) of the theme electives needs to be from OCNG to still get the minor.
4. Students will not be permitted to receive credit for both the 300-400 and 600-level versions of certain courses because the content and learning outcomes are too similar (e.g.OCNG 340/OCNG 640; OCNG 470/OCNG 655).
5. These two graduate courses will be taken for dual undergraduate/graduate credit and may contribute to a minor or technical elective.
6. Fulfills a technical elective.

Two courses in the degree plan must be writing intensive courses designated by the Environmental Programs in the schedule of classes. Also, international and cultural diversity electives (3 hours) and cultural discourse (3 hours) must be incorporated into the degree.

Any of the required courses may be taken during the summer sessions to diminish the heavy semester loads during Years 2 and 3.

The program includes a total of 156 hours with 6 hours being applied toward both the Bachelor of Science in Environmental Geosciences and the Master of Ocean Science and Technology.