

MARINE SCIENCES - BS

Program Requirements

First Year

	Semester	Credit
		Hours
Fall		
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
GEOL 101	Principles of Geology	4
& GEOL 102	and Principles of Geology Laboratory	
MARS 101	Marine Science Matters ¹	1
MATH 147	Calculus I for Biological Sciences	4
or MATH 151	or Engineering Mathematics I	
Semester Credit Hours		16
Spring		
CHEM 120	Fundamentals of Chemistry II	4
MATH 148	Calculus II for Biological Sciences	4
or MATH 152	or Engineering Mathematics II	
OCNG 251	Oceanography	4
& MARS 252	and Introductory Marine Science Laboratory ¹	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Semester Credit Hours		15
Second Year		
Fall		
BIOL 111	Introductory Biology I	4
MARS 210	Marine Geography ¹	3
Select one of the following:		4
PHYS 201	College Physics	
PHYS 206	Newtonian Mechanics for Engineering and Science	
& PHYS 226	and Physics of Motion Laboratory for the Sciences	
Track focus elective ^{1,2}		3-4
Semester Credit Hours		15
Spring		
BIOL 112	Introductory Biology II ³	4
or GEOL 106	or Historical Geology	
MARS 281	Sophomore Seminar in Marine Sciences ^{1,4}	1
Select one of the following:		4
PHYS 202	College Physics	
PHYS 207	Electricity and Magnetism for Engineering and Science	
& PHYS 227	and Electricity and Magnetism Laboratory for the Sciences	
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Track focus elective ^{1,2,3}		3-4
Semester Credit Hours		16

Third Year

Fall		
MARS 303	Computing and Data Display ¹	3
MARS 410	Physical Oceanography ¹	3
OCNG 420	Biological Oceanography ¹	3
POLS 207	State and Local Government	3
Track elective ¹		3
Semester Credit Hours		15
Spring		
MARS 365	Integrated Marine Sciences Laboratory ¹	3
MARS 430	Geological Oceanography-Plate Tectonics ^{1,4}	3
or MARS 431	or Geological Oceanography-Earth's Climate	
MARS 440	Chemical Oceanography ²	3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)		3
Track elective ¹		3
Semester Credit Hours		15
Fourth Year		
Fall		
MARS 325	Introduction to GIS for Marine Sciences ¹	3
MARS 460	Capstone Undergraduate Research Experience I ¹	1
MARS 491	Research in Marine Sciences ¹	2
POLS 206	American National Government	3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
Track elective ¹		3
Semester Credit Hours		15
Spring		
MARS 461	Capstone Undergraduate Research Experience II ²	1
MARS 481	Seminar ²	1
MARS 491	Research in Marine Sciences ²	2
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
General elective ^{2,5}		3-5
Track elective ¹		3
Semester Credit Hours		13
Total Semester Credit Hours		120

¹ Course counts towards major GPR.

² Hours vary depending on track focus electives chosen.

³ If a student is following the geology track, GEOL 106 is their focus elective and they will need to choose any additional 4 credit class for the spring semester to satisfy the curriculum 120 credit hours.

⁴ Writing intensive course.

⁵ 3 hours must be International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>). This requirement can be met with courses used to satisfy other degree requirements.

Track Options

Code	Title	Semester Credit Hours
Chemical Marine Science		
Focus electives		
CHEM 227 & CHEM 237	Organic Chemistry I and Organic Chemistry Laboratory	4
CHEM 228 & CHEM 238	Organic Chemistry II and Organic Chemistry Laboratory	4
Breadth electives		12
Select four of the following:		
ATMO 363	Introduction to Atmospheric Chemistry and Air Pollution	
MARS 340	Geochemistry	
MARS 360	Biochemistry	
MARS 470	Eco-Environmental Modeling	
STAT 303	Statistical Methods	
CHEM 300 to 499	(http://catalog.tamu.edu/undergraduate/course-descriptions/chem/)	
Total Semester Credit Hours		20

Code	Title	Semester Credit Hours
Geological Marine Science		
Focus electives		
GEOL 106	Historical Geology	4
MARS 306	Coastal Sedimentary Geology	4
Breadth electives		12
Select four of the following:		
GEOL 300 to 499 (http://catalog.tamu.edu/undergraduate/course-descriptions/geol/)		
GEOG 331	Geomorphology	
MARS 305	Environmental Micropaleontology	
MARS 340	Geochemistry	
MARS 370/	Coastal Processes	
GEOG 370		
MARS 415	Remote Sensing Technology	
MARS 430	Geological Oceanography-Plate Tectonics	
MARS 431	Geological Oceanography-Earth's Climate	
MARS 432	Peak Oil, Global Warming and Resource Scarcity	
MARS 435	Exploration Geophysics	
MARS 489	Special Topics in Marine Sciences	
Total Semester Credit Hours		20

Code	Title	Semester Credit Hours
Physical Marine Science		
Focus electives		
MATH 251	Engineering Mathematics III	3
MATH 308	Differential Equations	3
Breadth electives		12
Select four of the following:		
ATMO 363	Introduction to Atmospheric Chemistry and Air Pollution	
MARS 408	Estuarine and Coastal Hydrodynamics	
MARS 415	Remote Sensing Technology	
MARS 470	Eco-Environmental Modeling	
MARS 489	Special Topics in Marine Sciences	
STAT 303	Statistical Methods	
PHYS 300 to 499 (http://catalog.tamu.edu/undergraduate/course-descriptions/phys/)		
Total Semester Credit Hours		18

Code	Title	Semester Credit Hours
Integrated Track		
Focus electives		
Select one of the following:		3-4
CHEM 227 & CHEM 237	Organic Chemistry I and Organic Chemistry Laboratory	
MARS 306	Coastal Sedimentary Geology	
MATH 251	Engineering Mathematics III	
Select one of the following:		3-4
CHEM 228 & CHEM 238	Organic Chemistry II and Organic Chemistry Laboratory	
GEOL 106	Historical Geology	
MATH 308	Differential Equations	
Breadth elective		12
Select four of the following:		
GEOG 331	Geomorphology	
CHEM 300 to 499 (http://catalog.tamu.edu/undergraduate/course-descriptions/chem/)		
GEOL 300 to 499 (http://catalog.tamu.edu/undergraduate/course-descriptions/geol/)		
MARS 300 to 499 (http://catalog.tamu.edu/undergraduate/course-descriptions/mars/)		
Total Semester Credit Hours		18-20