

MARINE SCIENCES - BS

The Marine Sciences (MARS) program is a Bachelor of Science degree that focuses on the geological, chemical and physical science aspects of the estuarine, coastal, and marine environment. The coastal location of the campus enables students to acquire extensive hands-on field experience in addition to rigorous course work in chemistry, geology, physics, biology, oceanography and mathematics. All MARS majors take four courses of oceanography with labs and a course in geographic information systems (GIS). During the senior year students will participate in research with faculty members culminating in the writing of a senior thesis and the formal presentation of their research. We offer various elective courses, including geosciences, chemical/biogeochemical oceanography, and physical oceanography, or a broader interdisciplinary courses. Academic advisors in the Department of Marine and Coastal Environmental Science can help with course selection depending on the student's areas of interest.

Program Requirements

First Year

Fall		Semester Credit Hours
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
MARS 102	Earth and Ocean Science ¹	4
MATH 147 or MATH 151	Calculus I for Biological Sciences or Engineering Mathematics I	4
Semester Credit Hours		15

Spring

BIOL 111	Introductory Biology I	4
CHEM 120	Fundamentals of Chemistry II	4
MARB 101	Succeeding in Science ¹	3
Select one of the following:		4
MATH 148	Calculus II for Biological Sciences	
MATH 150	Functions, Trigonometry and Linear Systems	
MATH 152	Engineering Mathematics II	
Semester Credit Hours		15

Second Year

Fall		Semester Credit Hours
BIOL 112 or GEOL 106	Introductory Biology II or Historical Geology	4
MARS 210	Marine Geography ¹	3
MARS 281	Sophomore Seminar in Marine Sciences ^{1,2}	1
Select one of the following:		4
PHYS 201	College Physics	
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	
Professional elective ^{1,3}		3
Semester Credit Hours		15

Spring

MARS 303	Computing and Data Display ¹	3
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POLS 207	State and Local Government	3
Select one of the following:		4
PHYS 202	College Physics	
PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences	
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication)		3
Professional elective ^{1,3}		3

Semester Credit Hours 16

Third Year

Fall		Semester Credit Hours
MARS 325	Introduction to GIS for Marine Sciences ¹	3
MARS 410	Physical Oceanography ¹	3
MARS 420	Biological Oceanography ¹	3
POLS 206	American National Government	3
Professional elective ^{1,3}		3

Semester Credit Hours 15

Spring

MARS 430	Marine Geology ^{1,2}	4
MARS 440 or MARS 340	Chemical Oceanography ¹ or Global Biogeochemical Cycles	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)		3
Professional elective ^{1,3}		3

Semester Credit Hours 16

Fourth Year

Fall		Semester Credit Hours
MARS 460	Capstone Undergraduate Research Experience I ²	1
MARS 481	Seminar ²	1
MARS 491	Research in Marine Sciences ²	2
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
Professional elective ^{1,3}		3
General elective ⁴		3
General elective ⁴		3

Semester Credit Hours 16

Spring

MARS 461	Capstone Undergraduate Research Experience II ^{1,2}	1
MARS 491	Research in Marine Sciences ¹	2
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
Professional elective ^{1,3}		3

General elective ⁴	3
Semester Credit Hours	12
Total Semester Credit Hours	120

¹ Course counts towards major GPR.

² Writing intensive course.

³ Professional Electives include: ATMO 363; CHEM 227, CHEM 237, CHEM 228, CHEM 238, CHEM 316, CHEM 318; FSCI 360, GEOG 331; MARA 470; MARB 300-499; MARS 303, MARS 305, MARS 306, MARS 330, MARS 340, MARS 370/GEOG 370, MARS 408, MARS 410, MARS 412, MARS 415, MARS 425, MARS 426, MARS 432, MARS 435, MARS 440, MARS 470, MARS 484, MARS 489, MARS 491; MATH 251, MATH 308; POLS 347; STAT 303; OCEN 201, OCEN 213, OCEN 265, OCEN 300, OCEN 311.

⁴ Select any 100-499 course not used elsewhere.

The Graduation requirements include a requirement for 3 hours of I (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) international and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and 3 hours of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses. A course satisfying a Core category, a college/department requirement, or a free or directed elective can be used to satisfy this requirement.