MARINE BIOLOGY - BS, LICENSE OPTION

The Marine Biology License Option program allows the marine biology student to prepare for a career as an officer aboard a sea going vessel by participating in the Texas A&M Maritime Academy Corps of Midshipmen. The curriculum provides the basics of marine biology as well as courses leading toward licensing as a Third Mate of any gross tonnage upon oceans, steam, or motor vessels, in the U.S. Merchant Marine.

The Marine Biology License Option curriculum is an abbreviated version of the Marine Biology curriculum and is oriented toward field activities consistent with service aboard research vessels. Students who wish to attend a biologically-oriented graduate program, or are interested in the medical professions, are advised to take additional coursework in developmental biology, genetics, biochemistry, and physiology.

Midshipmen who enroll in and apply to graduate in this curriculum must pass the license examination for Third Mate in order to graduate from Texas A&M University. Certain USCG courses require a minimum grade of C (70%).

First Year

Fall		Semester Credit Hours
BIOL 111	Introductory Biology I [1,2]	4
CHEM 101	Fundamentals of Chemistry I	3
CHEM 111	Fundamentals of Chemistry Laboratory I	1
MART 103	Basic Safety and Lifeboatman Training [3]	3
MART 201	Vessel Structure and Ship Knowledge [3]	3
Select one from: [4]		3
MATH 141	Finite Mathematics	
MATH 150	Functions, Trigonometry and Linear Systems	
MATH 152	Engineering Mathematics II	
MATH 166	Topics in Contemporary Mathematics II	
PHIL 240	Introduction to Logic	
	Semester Credit Hours	17
Spring		
BIOL 112	Introductory Biology II [1,2]	4
CHEM 102	Fundamentals of Chemistry II	3
CHEM 112	Fundamentals of Chemistry Laboratory II	1
MART 115	Seamanship I [3]	3
MART 204	Terrestrial Navigation [3]	3
Select one from:		3
MATH 142	Business Calculus	
MATH 151	Engineering Mathematics I	
Any calculus course		
	Semester Credit Hours	17
Summer		
MART 200	Deck Sea Training I: Basic Communications, Navigation and Seamanship [3,6]	4
	Semester Credit Hours	4

Second Year

Fall		
CHEM 227	Organic Chemistry I	3
CHEM 237	Organic Chemistry Laboratory	1
MARB 300	Scientific Methods in Marine Biology [2]	2
NVSC 200	Naval Science for the Merchant Marine Officer [3]	3
PHYS 201	College Physics	4
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
	Semester Credit Hours	16
Spring		
CHEM 228	Organic Chemistry II	3
CHEM 238	Organic Chemistry Laboratory	1
ENGL 104	Composition and Rhetoric	3
MART 215	Seamanship II [3,5]	3
MART 303	Celestial Navigation [3]	3
PHYS 202	College Physics	4
	Semester Credit Hours	17
Summer		
ECON 203	Principles of Economics	3
ENGL 210	Technical and Business Writing	3
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture)		3
	Semester Credit Hours	9
Third Year		
Fall		
MARB 303	Biostatistics [2]	3
MARB 315	Natural History of Vertebrates [2]	4
MART 210	Integrated Navigation I: RADAR/ARPA/ECDIS [3]	4
MART 212	Marine Dry Cargo Operations [3]	3
MART 321	Navigation Rules, International and Inland [3]	2
	Semester Credit Hours	16
Spring		
MART 202	Ship Stability and Trim [3]	3
MART 307	Global Maritime Distress Safety System [3]	3
MART 310	Integrated Navigation II: Electronic Navigation [3]	2
MART 313	Marine Liquid Cargo Operations [3]	3
POLS 206	American National Government	3
	Semester Credit Hours	14
Summer		
Select one from: [3,6]		4
MART 300	Deck Sea Training II: Intermediate Communications, Navigation and Seamanship	
MART 350	Deck Sea Training II – Commercial Internship	
	Semester Credit Hours	4

Fourth Year		
Fall		
MARB 310	Introduction to Cell Biology [2]	4
MARB 425	Marine Ecology [2]	4
MART 410	Integrated Navigation III: Bridge Watchstanding [3,5]	2
POLS 207	State and Local Government	3
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts)		3
	Semester Credit Hours	16
Spring		
MARB 311	Ichthyology [2]	4
MARB 435	Marine Invertebrate Zoology [2,5]	4
MART 208	Maritime Meteorology [3]	3
MART 498	Maritime Medical Care [3,7]	2
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history)		3
	Semester Credit Hours	16
Summer		
MART 400	Deck Sea Training III: Advanced Communications, Navigation and Seamanship [3,6]	4
	Semester Credit Hours	4
	Total Semester Credit Hours	150

All electives must be chosen in consultation with, and approved by, the student's academic advisor. Unless courses are specifically listed, see University Core Curriculum at http://core.tamu.edu/ for a listing of course options for Communication; Mathematics; Life and Physical Sciences; Language, Philosophy and Culture; Creative Arts; American History; Government and Political Sciences; and Social and Behavioral Sciences. The 6-hour University Core Curriculum requirement for International and Cultural Diversity may be met with courses used to satisfy other degree requirements.

1 A grade of C or better is required before advancing to upper level courses.

2 Indicates required courses in Marine Biology License Option major. These courses will be used to compute the major GPR.

3 Indicates license courses leading to a USCG/STCW license endorsement or sea time credit accrual which require a minimum grade of C (70%) or better to earn the endorsement or accrual. Students will be required to repeat the course until they earn a grade of C (70%) or better. MART 307 requires a grade of 75% or better.

4 Other calculus or logic elective may be substituted with approval.

5 Designated writing intensive course.

6 The total hours may be increased if the student is required to take remedial math, remedial English, foreign language or International and Cultural Diversity courses, or any of the six-hour cruise options. The six-hour cruise options (MARR 200, MARR 300 and MARR 400) do not add any required hours to the degree plan.

7 MART 498 must be taken within one year of graduation to receive USCG approval.