

# MARINE BIOLOGY - BS

The Marine Biology Bachelor of Science degree emphasizes high impact, hands-on learning, with courses offering lab and field-based experiences. Our curriculum spans a broad range of topics, including ichthyology and fish physiology, marine mammalogy, ecology, marine botany and coastal plant ecology, vertebrate and invertebrate zoology, coral biology, and marine conservation. Our diverse curriculum allows students to tailor their education to realize their career goals. With state-of-the-art labs and classrooms, a fleet of vessels, and world-class faculty, our educational and research opportunities prepare graduates to become leaders in their field.

## Learn from Experts in the Field

The faculty of the Department of Marine Biology comprises some of the top researchers in their respective fields. This international group of scientists, hailing from 10 different countries around the world, is eager to share their knowledge and foster the passions of our undergraduates. Our faculty recognizes the power of networking, and provides students research and professional opportunities through affiliations with NOAA, FDA, EPA, Texas Parks and Wildlife Department, Texas Commission on Environmental Quality, Galveston Bay Foundation, General Land Office, and numerous others. Whether a student desires to study the smallest microbes and plankton to the largest marine organisms, or ecosystems along the coastline to the deepest reaches of the ocean, the faculty of the Marine Biology Department equips each student with the knowledge needed to succeed.

## Career Opportunities

The unique flexibility of courses and the unparalleled access to top quality professors, training, and the sea puts our students in a great position to succeed in any number of career paths, including:

- Conservation
- Environmental Consulting
- Research
- Biomedical Sciences
- Veterinary and Medical degrees
- Law Enforcement
- Environmental Outreach
- Higher/Secondary Education

## Endless Learning Opportunities

The courses offered to Marine Biology undergraduates are tailored to give students a solid foundational knowledge of life in the ocean while allowing students to pursue their specific interests. The diverse array of electives includes such courses as: Biology of Marine Mammals, Tropical Marine Ecology, Marine Toxicology, Animal Behavior, Life in Extreme Environments, and Conservation Biology.

## Learning Outside the Classroom

Sometimes the greatest lessons are learned away from the classroom. For this reason, the Marine Biology Department offers field-based courses in Puerto Rico and at SeaWorld San Antonio. Additionally, students can take advantage of our on-campus Sea Life Facility for extensive hands-on opportunities. Undergraduates in our program get more than just a degree, they get experiences of a lifetime.

## Double Your Career Options

Marine Biology majors have the option to pursue a U.S. Merchant Marine License Option through the Texas A&M Maritime Academy. Those who complete the program will have not only their Bachelor of Science degree, but will also qualify to take the U.S. Coast Guard license examination in order to become a Third Mate for ocean going vessels, a vital asset in a number of career fields.

## Program Requirements

### First Year

Fall		Semester Credit Hours
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
MATH 147 or MATH 151	Calculus I for Biological Sciences or Engineering Mathematics I	4
MARB 101	Succeeding in Science <sup>1</sup>	3
<b>Semester Credit Hours</b>		<b>14</b>

### Spring

BIOL 111	Introductory Biology I <sup>1,2</sup>	4
CHEM 120	Fundamentals of Chemistry II	4
MARS 102	Earth and Ocean Science <sup>1</sup>	4
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	
<b>Semester Credit Hours</b>		<b>16</b>

### Second Year

Fall		Semester Credit Hours
CHEM 227	Organic Chemistry I	3
CHEM 237	Organic Chemistry Laboratory	1
MARB 215	Marine Zoology <sup>1</sup>	4
PHYS 201	College Physics	4
POLS 206	American National Government	3
<b>Semester Credit Hours</b>		<b>15</b>

### Spring

CHEM 228	Organic Chemistry II	3
CHEM 238	Organic Chemistry Laboratory	1
MARB 315	Natural History of Vertebrates <sup>1</sup>	4
PHYS 202	College Physics	4
POLS 207	State and Local Government	3
<b>Semester Credit Hours</b>		<b>15</b>

### Third Year

Fall		Semester Credit Hours
MARB 301	Genetics <sup>1</sup>	4
MARB 303	Biostatistics <sup>1</sup>	4
Communication ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communications">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communications</a> )		3
Marine biology elective <sup>1,3</sup>		4
<b>Semester Credit Hours</b>		<b>15</b>

**Spring**

MARB 310	Introduction to Cell Biology <sup>1</sup>	4
MARB 435	Marine Invertebrate Zoology <sup>1,4</sup>	4
Social and behavioral sciences ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#social-behavioral-sciences</a> )		3
Marine biology elective <sup>1,3</sup>		4
<b>Semester Credit Hours</b>		<b>15</b>

**Fourth Year****Fall**

MARB 425	Marine Ecology <sup>1</sup>	4
MARB 430	Coastal Plant Ecology <sup>1</sup>	4
American History ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a> )		3
Marine biology elective <sup>1,3</sup>		3
<b>Semester Credit Hours</b>		<b>14</b>

**Spring**

MARB 420	Comparative Animal Physiology <sup>1</sup>	4
American history ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history</a> )		3
Creative arts ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts</a> )		3
Language, philosophy and culture ( <a href="http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture">http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture</a> )		3
Marine biology elective <sup>1,3</sup>		3
<b>Semester Credit Hours</b>		<b>16</b>
<b>Total Semester Credit Hours</b>		<b>120</b>

<sup>1</sup> Indicates required courses in the Marine Biology major. These courses will be used to compute the major GPR.

<sup>2</sup> A grade of C or better is required before advancing to upper level courses.

<sup>3</sup> 14 credit hours of marine biology electives selected from the following: BIOL 351; FSCI 360, MARB 300-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/marb/>); MARS 305, MARS 325. Students can only select 2 mammals courses (MARB 400, MARB 401, MARB 403, or MARB 407).

<sup>4</sup> Designated writing intensive course.

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 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 3-hour University Core Curriculum requirement for International and Cultural Diversity may be met with courses used to satisfy other degree requirements. The 3-hour University Core Curriculum requirement for Cultural Discourse may be met with courses used to satisfy other degree requirements. Up to 4 hours of MARB 491 and/or MARB 484 may be used as marine biology elective courses in your curriculum. Please consult with your academic advisor.