

**Bachelor of Science (BS)****Marine Biology Option**

This option is designed for the student who is preparing to do graduate work in this area or seek full-time employment in this field. Employment may be found with national and state conservation and resource management agencies, park services, environmental consulting agencies, and zoological parks, among others. This option includes course work to be taken at the Gulf Coast Research Laboratory (GCRL) or another comparable institution.

The time spent at a marine station affords students the opportunity to gain hands on experience or advanced education/training in the marine environment.

**Marine Biology students will...**

- Meet one-on-one, with their advisor, Dr. Michael Taylor or Dr. Timothy Judd, each semester to assess their progress in the program and toward their post-graduation goals.
- Take a core of courses that will prepare them for any area of biology.
- Take rigorous coursework in marine biology, marine ecology, invertebrate zoology and animal biology, which will prepare them for advanced study or employment.
- Select additional option courses in plant biology or microbiology, aquatic ecology, management of wildlife populations, ichthyology, conservation biology and more.
- Take at least one course at a marine laboratory such as the Gulf Coast Research Laboratory.
- Be required to complete 80 hours of experiential learning, usually in field studies or internships.
- Complete additional course work in oceanography, physics, organic chemistry and calculus in order to qualify them for employment.
- Attend classes in the newly renovated Magill Hall furnished with state-of-the-art equipment.
- Have access to the Miller Reserve Wetlands Restoration project, the Kelso Wildlife Sanctuary and the Reis Biological Research Station.

**Career Planning**

Career preparation is part of the mission of Southeast. In fact, more than 90% of Southeast students participate in internships, clinical opportunities, student teaching, research assistantships, and study abroad. Professional career counselors are available for all students. The Office of Career Services in Academic Hall 057 can provide students with professional career counseling, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

Demonstrated Career Proficiency is a Requirement of all Southeast Students		
CL001/CL002	First Semester	Complete the FOCUS2 assessment and develop a Career Action Plan.
CL003	Junior Year	Students gain information about career planning and job searching resources.
CL004	Senior Year	Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search.

**Recent Internship Placement**

- Missouri Department of Conservation
- St. Louis Children's Museum
- St. Louis Zoo
- Sea World
- Great White Shark
- Coastal Marine Education Research Academy

**Graduate School Matriculation/Employment**

- Southeast Missouri State University
- University of Southern Mississippi
- University of Puerto Rico
- Miami Seaquarium

**Employment Opportunities**

- Aquarium Technician
- Biological Oceanographer
- Conservation Agent
- Field Technician
- Laboratory Assistant
- Marine Biologist
- Marine Fisheries Biologist
- Marine Mammal Trainer
- Park Service Naturalist

**Electives offered in this Major**

- Marine Microbiology
- Marine Phycology
- Marine Aquaculture
- Marine Mammals
- Coastal Vegetation
- Marine Fisheries Management
- Marine Ichthyology

**Admission Requirements**

A college preparatory sequence that includes three years of science (including biology, chemistry and physics) and mathematics through advanced algebra is encouraged.

**To learn more**  
 Office of Admissions  
 (573) 651-2590  
[admissions@semo.edu](mailto:admissions@semo.edu)  
[www.semo.edu](http://www.semo.edu)

**To explore the College of Science, Technology, and Agriculture online, visit**  
[www.semo.edu/costa](http://www.semo.edu/costa)

**For advising**  
 College of Science, Technology, and Agriculture  
 Advising Center (573) 651-5930  
[costaadvising@semo.edu](mailto:costaadvising@semo.edu)  
[www.semo.edu/costa/advising](http://www.semo.edu/costa/advising)

# Biology: Marine Biology Option

## Bachelor of Science (BS)

This is a guide based on the 2015-2016 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use DegreeWorks to monitor their individual progress.

### CURRICULUM CHECKLIST

#### Required Courses:

- \_\_\_ BI151 Biological Reasoning (3)
- \_\_\_ BI153 Intro to Organismal Biology (4)
- \_\_\_ BI154 Genetics and Cell Biology (4)
- \_\_\_ BI489 Analysis of Biological Issues (2)
- \_\_\_ CH185/085/005 General Chemistry (5)

Choose one math course:

- \_\_\_ MA134 College Algebra (3)
- \_\_\_ MA137 Precalculus (5)
- \_\_\_ MA139 Applied Calculus (3)
- \_\_\_ MA140 Analytical Geometry & Calculus I (5)

Choose one additional math course:

- \_\_\_ MAxxx Additional math (MA133 or higher) (3)

Experiential Learning Requirement: 2 Hours

- \_\_\_ BI471-473 Internships in Biology (2)

OR

- \_\_\_ BI551-553 Biology Field Studies (2)

OR

- \_\_\_ BI589-591 Biological Research (2)

#### Marine Biology Option Required Courses:

- \_\_\_ BI332 General Ecology (3)
- \_\_\_ BI348 Marine Biology (3)
- \_\_\_ BI434 Marine Evolutionary Ecology (3)
- \_\_\_ ZO200 Animal Biology (3)
- \_\_\_ ZO430 Invertebrate Zoology (4)

Choose one of the following:

- \_\_\_ BI200 Microbiology (3)
- \_\_\_ BO200 Plant Biology (4)

#### Biology Electives\*: 3-4 Hours

- \_\_\_ BI/BO/BT/ZOxxx 300 level or above

\* A minimum of 3 hours must be taken from the Gulf Coast Research Laboratory or comparable institution or the equivalents listed below:

- \_\_\_ BI540/541 Marine Microbiology (5)
- \_\_\_ BI573-578 Special Topics (1-6)
- \_\_\_ BI593-598 Special Problems (1-6)
- \_\_\_ BO500/505 Marine Phycology (4)
- \_\_\_ BO561/562 Salt Marsh Plant Ecology (4)
- \_\_\_ BO563/564 Coastal Vegetation (3)
- \_\_\_ ZO510/511 Comparative Histology of Marine Organisms (6)
- \_\_\_ ZO540/541 Parasites/Marine Mammals (6)
- \_\_\_ ZO552/553 Marine Fisheries Management (4)
- \_\_\_ ZO554/555 Marine Aquaculture (6)
- \_\_\_ ZO559/560 Marine Mammals (5)
- \_\_\_ ZO563/566 Fauna & Faunistic Ecology of Tidal Marshes (5)
- \_\_\_ ZO564/574 Marine Ichthyology (6)
- \_\_\_ ZO565/567 Early Life History of Marine Fishes (4)

#### Non-Biology Requirements:

- \_\_\_ CH186 Foundations of Inorganic Chemistry (3)
- \_\_\_ CH187 Inorganic Chemistry & Qualitative Analysis Lab (2)
- \_\_\_ CH 341 Foundations of Organic Chemistry (4)
- \_\_\_ CH342 Organic Chemistry Lab I (1)
- \_\_\_ GO320 Oceanography (3)
- \_\_\_ PH106 Physical Concepts (3)

#### University Studies Requirements (not already listed above):

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Development of a Major Civilization, Economic Systems, Social Systems, Political Systems, two IU/UI3XXs, and one UI4xx.

### SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	3	BI153	4
	EN100	3	CH185/085/005	5
	BI151	3	Additional Math course	3
	MA134/137/139/140	3-5	Written Expression	3
	Artistic Expression	3		
	<b>Total</b>	<b>15-17</b>	<b>Total</b>	<b>15</b>
Milestone: maintain 2.0 cumulative GPA				

<b>SECOND YEAR</b>	BI154	4	BI332	3
	CH186	3	BI200 or BO200	3-4
	CH187	2	CH341	4
	Literary Expression	3	CH342	1
	Oral Expression	3	Behavioral Expression	3
	<b>Total</b>	<b>15</b>	<b>Total</b>	<b>14-15</b>
Milestone: maintain 2.0 cumulative GPA				

<b>THIRD YEAR</b>	GO320	3	BI348	3
	ZO200	3	BI/BO/ZO elective	3
	Develop of a Major Civ	3	PH106	3
	Economic Systems	3	Political Systems	3
	Elective	3	Elective	3
	<b>Total</b>	<b>15</b>	<b>Total</b>	<b>15</b>
Milestone: maintain 2.0 cumulative GPA				

	SUMMER TERM		Biology Elective from marine station	3-6
<b>FOURTH YEAR</b>	Experiential Learning Crs	2	BI434	3
	Social Systems	3	BI489	2
	IU/UI3XX	3	ZO430	4
	IU/UI3XX	3	UI4XX	3
	Elective	3	Elective	2
	<b>Total</b>	<b>14</b>	<b>Total</b>	<b>14</b>
Milestone: maintain 2.0 cumulative GPA				

A "Milestone" signifies a significant stage for a student in the completion of a degree.

**Degree requirements for all students:** a minimum of 120 credit hours, completion of University Studies program, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level.

A minimum 2.00GPA in the major and overall are required to graduate with a BS degree.

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e. minimum GPA and coursework) for your program of study.

Revised  
3/19/2015