Biology: Marine Biology Option

Bachelor of Science (BS)

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 Kelseo Wildlife Sanctuary and the Reis Biological Research Station.

**Career Planning**

A St. Louis Outreach Office, located in Chesterfield, Mo., provides career exploration assistance, resume critiques, interview tips, job search strategies and more.

**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
www.semo.edu

To explore the College of Science, Technology, and Agriculture online, visit
www.semo.edu/costa

For advising
College of Science, Technology, and Agriculture
Advising Center (573) 651-5930
costaadvising@semo.edu
www.semo.edu/costaadvising/index.htm
### CURRICULUM CHECKLIST

#### Required Courses – 45-46 Hours Required

- BI151 Biological Reasoning (3)
- BI153 Intro to Organizational Biology (4)
- BI154 Genetics and Cell Biology (4)
- BI155 General Biology (3)
- BI348 Marine Biology (3)
- BI434 Marine Evolutionary Ecology (3)
- BI489 Analysis of Biological Issues (2)
- CH115/215/315 General Chemistry (5)
- MA134 College Algebra (3)
- MAXXX Additional Math (3)
- ZO200 Animal Biology (3)
- ZO430 Invertebrate Zoology (4)

**Experimental Learning Requirement: 2 hours**

- BI471-473 Internships in Biology (2) OR
- BI551-553 Biology Field Studies (2) OR
- BI589-591 Biological Research (2)

**Choose one of the following:**

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

**Electives:** 5-6 Hours

- BI/BO/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 Physiology (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)
- ZO566/567 Early Life History of Marine Fishes (4)

**Non-Biology Requirements:** 16 Hours

- CH180 Foundations of Inorganic Chemistry (3)
- CH181 Inorganic Chemistry & Qualitative Analysis Lab (2)
- CH341 Foundations of Organic Chemistry (4)
- CH342 Organic Chemistry Lab (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 IU4XX.

### SAMPLE FOUR-YEAR PLAN

#### Biology: Marine Biology Option

**Requirements for the 2014-2015 Undergraduate Bulletin**

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<th>Fall Semester</th>
<th>Spring Semester</th>
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<td>BI151</td>
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<td>MA134</td>
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**First Year**

- Total 15 Total 15

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<td>CH186</td>
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<td>CH187</td>
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**Total**

- 15 Total 14-15

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<td>ZO200</td>
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**Second Year**

- Develop of a Major Cv 3 Political Systems 3
- Economic Systems 3 Elective 3
- Total 15 Total 15

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<td>Elective</td>
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**Third Year**

- Biological Elective from marine station 3-6
- Experiential Learning Crs 2
- Elective 2
- Total 14 Total 14

**Fourth Year**

- Degree requirements for all students: a minimum of 120 credit hours, completion of University Studies program, career proficiencies (CL.001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the freshman and senior levels.

A minimum 2.0GPA 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.

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*To learn more*

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Revised 02/18/2014