

Biology: Marine Biology Option

Bachelor of Science (BS)

Marine Biology Option

This option is designed for the student who is passionate about living things in the oceans. It provides preparation to do graduate work in this area or seek full-time employment in Marine Biology. Employment may be found with national and state conservation and resource management agencies, park services, environmental consulting agencies and aquaria, among others. This option includes course work to be taken at the Gulf Coast Research Laboratory (GCRL) or another comparable institution.

Becoming Career Ready...

/ Faculty-mentored research and guidance will help you develop the professional skills needed for success in a competitive job market and/or advanced study in graduate and professional programs. Students attend classes in the newly renovated Magill Hall furnished with state-of-the-art equipment.

/ The Marine Biology option prepares graduates for a career paths in research, education, public policy and aquarium administration. Example job titles include marine biologist, aquarist, oceanographer, laboratory technician and marine mammal trainer.

/ 100% of Southeast programs offer real-world experience. Marine Biology students earn this experience through required 80 hours outside the classroom which earn 2 college credits. Marine Biology students also spend time at a marine station that affords them the opportunity to gain hands on experience or advanced education/training in the marine environment. All Marine Biology students complete at least one course at a marine laboratory such as the Gulf Coast Research Laboratory. Marine Biology students can also gain hands-on experience at the Miller Reserve Wetlands Restoration project, the Kelso Wildlife Sanctuary and the Reis Biological Research Station.

/ Marine Biology students take rigorous coursework in marine biology, marine ecology, invertebrate zoology and animal biology, which will prepare them for advanced study or employment. Students also complete additional course work in oceanography, physics, organic chemistry and calculus in order to qualify them for employment.

/ The Biology Club also provides peer-support and guidance for Marine Biology students. Students will meet with their advisor each semester to assess their progress towards admission to a professional school. Through advisor guidance, students may also select additional option courses in plant biology or microbiology, aquatic ecology, management of wildlife populations, ichthyology, conservation biology to help prepare for their future career goals.

/ The path to a successful career starts with you! You can maximize your career development by working closely with Career Services and Southeast faculty – they are here to help you connect your passions, interests and skills to jobs and opportunities in the field. Career Services provides professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities and more.

Recent Internship Placement:

- Missouri Department of Conservation
- St. Louis Children's Museum
- St. Louis Zoo
- Sea World
- Whale Shark and Oceanic Research Center
- 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.

Special Options with Biology

Southeast offers a Master of Natural Science in Biology.

Transfer and Dual Credit Students

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at semo.edu/transferecredit.

To learn more
 Office of Admissions
 (573) 651-2590
admissions@semo.edu
semo.edu

To explore
 the College of Science,
 Technology, Engineering and
 Mathematics online, visit
semo.edu/stem

For advising
 Center for Academic Advising
semo.edu/advising

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This is a guide based on the 2020-2021 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 Degree Works to monitor their individual progress.

CURRICULUM CHECKLIST

"Critical Courses" are italicized and bolded. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

Required Courses:

- ___ BI163 Evolution & Ecology (4)
- ___ BI173 Cell & Organismal Biology (4)
- ___ **BI283 Genetics (4)**
- ___ BI389 Career Development in Biology (2)
- ___ **CH185 General Chemistry (5)**

Choose one math course:

- ___ MA116 Precalculus A (3)
- ___ MA137 Precalculus (5)
- ___ MA139 Applied Calculus (3)
- ___ MA140 Analytical Geometry & Calculus I (5)

Choose one additional math course:

- ___ MAxxx Additional math (for which MA116 is a prerequisite) (3)
- OR
- ___ MA155 Statistical Reasoning (3)

Experiential Learning Requirement: 2 hours

- ___ BI471-473 Internships in Biology (2)
- ___ BI551-553 Biology Field Studies (2)
- ___ BI563-565 Experience in Museum Curation (1-3)
- ___ BI570 Development of Instructional Materials (1)
- ___ BI589-591 Biological Research (2)

Marine Biology Option Required Courses:

- ___ BI332 General Ecology (3)
- ___ BI348 Marine Biology (3)
- ___ BI434 Marine Ecology & Conservation (3)
- ___ ZO310 Zoology (4)
- ___ ZO430 Invertebrate Zoology (4)

Biology Electives*: 5 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:

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)

General Education Requirements – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution Requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)
- Civics examination

SAMPLE FOUR-YEAR PLAN

| | Fall Semester | | Spring Semester | |
|---|---------------------------|--------------|--------------------------------------|------------|
| | Course # | Hrs | Course # | Hrs |
| FIRST YEAR | UI100 | 3 | BI173 | 4 |
| | BI163 | 4 | CH186 | 3 |
| | CH185 | 5 | CH187 | 2 |
| | MA116/137/139/140 | 3-5 | EN100 | 3 |
| | | | Additional Math | 3 |
| | Total | 15-17 | Total | 15 |
| Milestone: achieve a target cumulative GPA of 3.0 | | | | |
| SECOND YEAR | BI283 | 4 | BI348 | 3 |
| | CH341 | 4 | ZO310 | 4 |
| | CH342 | 1 | PH106 | 3 |
| | General Education | 3 | General Education | 3 |
| | General Education | 3 | General Education | 3 |
| | Total | 15 | Total | 16 |
| Milestone: achieve a target cumulative GPA of 3.0 | | | | |
| THIRD YEAR | BI332 | 3 | BI434 | 3 |
| | BI389 | 2 | BI/BO/ZO elective | 3 |
| | GO320 | 3 | General Education | 3 |
| | General Education | 3 | Electives | 6 |
| | General Education | 3 | | |
| Total | 14 | Total | 15 | |
| Milestone: achieve a target cumulative GPA of 3.0 | | | | |
| SUMMER TERM | | | Biology Elective from marine station | 3-6 |
| FOURTH YEAR | Experiential Learning Crs | 2 | ZO430 | 4 |
| | General Education | 3 | Elective | 3 |
| | General Education | 3 | Elective | 4 |
| | Elective | 3 | Elective | 3 |
| | Elective | 3 | | |
| Total | 14 | Total | 14 | |
| Milestone: achieve a target cumulative GPA of 3.0 | | | | |

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

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

Degree requirements for all students: a minimum of 120 credit hours, completion of the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

Revised
6/1/2020