

Biology: Marine Biology Option

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. 100% of programs offer our students an internship, study-abroad program, clinical opportunity, student teaching or research internship.

The Office of Career Services in Academic Hall 057 can provide students with 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/transfercredit.

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 2018-2019 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 (1)
- ___ **CH185/085/005 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

- ___ BI 471-473 Internships in Biology (2)
- ___ BI 551-553 Biology Field Studies (2)
- ___ BI563-565 Experience in Museum Curation (1-3)
- ___ BI 570 Development of Instructional Materials (1)
- ___ BI 589-591 Biological Research (2)

Marine Biology Option Required Courses:

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

Biology Electives*: 6-8 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)

University Studies Requirements – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 3 hours
- Constitution requirement – 3 hours
- US History 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)

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
	University Studies	3	University Studies	3
	University Studies	3	University Studies	3
	Total	15	Total	16
Milestone: achieve a target cumulative GPA of 3.0				
THIRD YEAR	BI332	3	BI434	3
	BI389	1	BI/BO/ZO elective	3
	GO320	3	University Studies	3
	University Studies	3	Electives	6
	University Studies	3		
	Total	13	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
	University Studies	3	Elective	3
	University Studies	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 University Studies program, completion of 39 senior division hours (300-599), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the senior level. Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.