

Degree Type – Bachelor of Science (BS)
Degree Title – Marine Biology

The Department of Biology is committed to excellence in instruction, scholarly accomplishment, research, professional service, and student success. The Department provides a broad-based undergraduate education in Biology so as to give students the opportunity to pursue a career best-suited to their interests and abilities. Graduates are prepared to enter the workforce or continue their education in graduate or professional school. The Department provides rigorous pre-professional preparation for students seeking careers in biological sciences and health professions.

STUDENT LEARNING OUTCOMES:

- 1. Role of the Cell:** The Biology graduate knows the role of the cell in life and living systems, and understands the interrelationships among subcellular structures that contribute to its functioning as a unit
- 2. Role of Genetics:** The Biology graduate understands the role of genetics in inheritance and can explain how environmental conditions influence natural selection processes and contribute to adaptation.
- 3. Diversity of Life:** The Biology graduate is aware of the diversity of life and interrelationships between an organism and its environment.
- 4. Structure and Function:** The Biology graduate understands how the organization of a specific structure within an organism is related to a specific function, understands interrelationships among organs and organ systems within an organism, and how interaction between structure and function contribute to the survival of the organism.
- 5. Scientific Method:** The Biology graduate understands the Scientific Method, is able to analyze and interpret data, and communicate research findings in both oral and written form.

A – GENERAL EDUCATION CORE – 42 HOURS

Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education core requirements.

Required**Mathematics – 3 hours**

MATH 1343 Introduction to Biostatistics (or MATH 1388 Honors)

Life and Physical Sciences – 6 hours

CHEM 1311 General Chemistry I

CHEM 1312 General Chemistry II

Language, Philosophy and Culture – 3 hours

PHIL 1366 Philosophy and History of Science and Technology

Integrative and Experiential Learning – 2 hours

CHEM 1111 General Chemistry I Lab

CHEM 1112 General Chemistry II Lab

B – MAJOR REQUIREMENTS – 58 HOURS (47 advanced)**1 – Marine Biology Core – 37 hours (26 advanced)**

BIOL 1406 General Biology I (or BIOL 1487 Honors)

BIOL 1407 General Biology II (or BIOL 1488 Honors)

BIOL 2310 Marine Processes and Ecosystem Dynamics

BIOL 3320 Marine Biogeochemistry

BIOL 3430 Field Methods and Analysis in Marine Biology

BIOL 3413 Genetics

Choose one:

BIOL 3415 Molecular Biology
BIOL 3412 Cell Biology
BIOL 3301 Biological Evolution
BIOL 3409 Ecology
BIOL 4401 Marine Biology Seminar (Capstone)

2 – Marine Biology Electives – 17 hours (17 advanced)

Choose from:

BIOL 4199 Research Problems in Biology
BIOL 4399 Research Problems in Biology
BIOL 3414 Invertebrate Zoology
BIOL 3416 Coral Reef Ecology
BIOL 4388 Global Change Ecology
BIOL 4402 Marine Zoology
BIOL 4403 Introduction to Remote Sensing Technology
BIOL 4404 Ichthyology
BIOL 4410 Marine Botany
BIOL 4426 Marine Ecology
BIOL 4427 Marine Animal Field Studies
BIOL 4430 Coastal Ecology
GEOL 3408 Introduction to Geographic Information Systems

3 – Biology Electives – 4 hours (4 advanced)

Choose 4 hours of advanced Biology.

C – SUPPORT COURSES – 20 HOURS (4 advanced)

CHEM 2323 Organic Chemistry I
CHEM 2123 Organic Chemistry I Lab
CHEM 2325 Organic Chemistry II
CHEM 2125 Organic Chemistry II Lab
PHYS 1401 General Physics I
PHYS 1402 General Physics II
ENVR 3405 Oceanography

TOTAL CREDIT HOURS FOR GRADUATION – 120 HOURS

TOTAL ADVANCED HOURS – 51 HOURS

ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:

Admission requirements

Admission requirements to this program: BIOL 1406 (or BIOL 1487 Honors), BIOL 1407 (or BIOL 1488 Honors), and CHEM 1311/CHEM 1111 with a grade of 'C' or better grade in all of these courses and Department approval.