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.

Graduation requirements
In addition to the graduation requirements listed in the UTRGV 2015-2017 Undergraduate Catalog, demonstration of proficiency in a language other than English is required at the undergraduate level equivalent to a minimum of six credit hours. Proficiency can be demonstrated by a college credit exam, a
placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.