

*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.*

## **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**

#### **020 - Mathematics – 3 hours**

*Choose one:*

MATH 1342 Elementary Statistical Methods (or MATH 1387 Honors)

MATH 1343 Introduction to Biostatistics (or MATH 1388 Honors)

#### **030 - Life and Physical Sciences – 6 hours**

CHEM 1311 General Chemistry I

CHEM 1312 General Chemistry II

#### **040 - Language, Philosophy and Culture – 3 hours**

*Choose from:*

PHIL 1300 Critical Thinking

PHIL 1301 Introduction to Philosophy (or PHIL 1387 Honors)

PHIL 1366 Philosophy and History of Science and Technology

#### **090 - Integrative and Experiential Learning – 2 hours**

CHEM 1111 General Chemistry I Lab

CHEM 1112 General Chemistry II Lab

## **B – MAJOR REQUIREMENTS – 58 HOURS (28 advanced minimum)**

### **1 – Biology Core – 42 hours (18 advanced)**

BIOL 1406 General Biology I (or BIOL 1487 Honors)

BIOL 1407 General Biology II (or BIOL 1488 Honors)

BIOL 3301 Biological Evolution

BIOL 3409 Ecology

BIOL 3413 Genetics

BIOL 4400 Biological Communication (Capstone)

CHEM 2323 Organic Chemistry I

CHEM 2123 Organic Chemistry I Lab

CHEM 2325 Organic Chemistry II

CHEM 2125 Organic Chemistry II Lab

CHEM 3303 Biochemistry I

PHYS 1401 General Physics I

PHYS 1402 General Physics II

### **2 – Biology Electives – 16 hours (10 advanced minimum)**

#### **a – Cell/Molecular Course**

*Choose at least one:*

BIOL 3401 General Microbiology

BIOL 3403 Medical Microbiology and Immunology

BIOL 3412 Cell Biology

BIOL 3415 Molecular Biology

BIOL 4313 Endocrinology

BIOL 4330 Molecular Evolution

BIOL 4333 Immunology

BIOL 4361 Neuroscience I: Cellular and Molecular

BIOL 4413 General Virology

BIOL 4417 Bacterial Genetics

BIOL 4418 Electron Microscopy  
BIOL 4421 Biotechnology  
BIOL 4428 Medical Genomics

**b – Developmental/Morphology**

*Choose at least one:*

BIOL 2428 Comparative Vertebrate Anatomy  
BIOL 3405 Histology  
BIOL 3406 Developmental Mechanisms  
BIOL 3407 Comparative Embryology  
BIOL 3408 Plant Morphology  
BIOL 4420 Plant Anatomy

**c – Organismal/Environmental**

*Choose at least one:*

BIOL 2310 Marine Processes and Ecosystem Dynamics  
BIOL 3404 Conservation Biology  
BIOL 3414 Invertebrate Zoology  
BIOL 3420 Environmental Biology  
BIOL 4316 Environmental Toxicology  
BIOL 4318 Ethnobotany  
BIOL 4319 Medical Entomology  
BIOL 4388 Global Change Ecology  
BIOL 4389 Geographical Information Systems in Biology  
BIOL 4402 Marine Zoology  
BIOL 4403 Introduction to Remote Sensing Technology  
BIOL 4404 Ichthyology  
BIOL 4407 Animal Parasitology  
BIOL 4408 Plant Pathology  
BIOL 4409 Herpetology  
BIOL 4410 Marine Botany  
BIOL 4412 Ornithology  
BIOL 4414 Plant Taxonomy  
BIOL 4415 Entomology  
BIOL 4416 Mammalogy  
BIOL 4419 Aquatic Entomology  
BIOL 4423 Wildlife Ecology and Management  
BIOL 4424 Microbial Ecology  
BIOL 4426 Marine Ecology  
BIOL 4427 Marine Animal Field Studies  
BIOL 4432 Animal Behavior

**d – Physiology**

*Choose at least one:*

BIOL 1322 Human Nutrition  
BIOL 2401 Anatomy and Physiology I  
BIOL 2402 Anatomy and Physiology II  
BIOL 3310 Neurobiology  
BIOL 3345 Animal Nutrition  
BIOL 3311 or 3411 Mammalian Physiology  
BIOL 4317 Disease Epidemiology  
BIOL 4362 Neuroscience II: System, Developmental, and Disorders  
BIOL 4405 Plant Physiology  
BIOL 4411 Ecological Physiology of Animals  
BIOL 4422 Neurobiology Methods

**C – SUPPORT COURSES – 6 HOURS**

PSYC 2301 General Psychology  
SOCL 1301 Introduction to Sociology

**D – FREE ELECTIVES – 14 HOURS**

*Advanced hours will vary to meet 42 advanced hour requirement. MATH 1314 or 1414 or passing the Mathematics Exemption Test administered by the School of Mathematical and Statistical Sciences is required to enroll in PHYS 1401.*

**TOTAL CREDIT HOURS FOR GRADUATION – 120 HOURS**

**TOTAL ADVANCED HOURS – 42 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 'C' or better grade in all of these courses and Department approval.

**Graduation requirements**

1. A 2.5 minimum GPA in Major Requirements is required for graduation.
2. In addition to the graduation requirements listed in the UTRGV 2018-2019 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.