BIOLOGY
BACHELOR OF SCIENCE
(Focus: Life Sciences with 7th – 12th Grade UTeach Certification)

This program leads to a profession which requires an occupational license as defined under Texas Occupations Code 58.001 This requires that all applicants seeking to become licensed must undergo a criminal background check prior to licensure. Students in this program should check with the College of Education and P-16 Integration on the requirements for a criminal background check prior to student teaching.

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.

The Department also provides a service function to the University by providing a means for students to fulfill their science requirement. Non-majors receive instruction in scientific methods, a general overview of biology, new discoveries, and the importance of biology in society. An M.S. degree program provides the opportunity for advanced study, specialization, and research. The program prepares students for further graduate study at the doctorate level and for careers in the biological sciences and related disciplines.

The Department of Biology is committed to the discovery of new knowledge through research that is conveyed to professional and lay constituencies through publication and presentation and participation in policy decision-making.
The Department of Biology also engages the community through outreach programs, continuing education, educational leadership, and collaborations with local school districts and governmental agencies. Faculty members are also encouraged to take leadership roles in societies of their research specialties.

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

MATH 2413 Calculus I (or MATH 2487 Honors) three-hour lecture

030 - Life and Physical Science – 6 hours

CHEM 1311 General Chemistry I
CHEM 1312 General Chemistry II

080 - Social and Behavioral Sciences – 3 hours

PSYC 2301 General Psychology

090 - Integrative and Experiential Learning – 3 hours

CHEM 1111 General Chemistry I Lab
CHEM 1112 General Chemistry II Lab
BIOL 1406 General Biology I (or BIOL 1487 Honors) one-hour lab

B – MAJOR REQUIREMENTS – 61 HOURS (37 advanced minimum)

1 – Life Sciences Foundation – 49 hours (28 advanced)

BIOL 1406 General Biology I (or BIOL 1487 Honors) three-hour lecture
BIOL 1407 General Biology II (or BIOL 1488 Honors)
BIOL 3301 Biological Evolution
BIOL 3330 Functions and Modeling
Choose one:
- BIOL 3409 Ecology
- BIOL 3420 Environmental Biology

BIOL 3412 Cell Biology
BIOL 3413 Genetics
BIOL 4392 Research Methods in the Science and Mathematics Classroom (UTeach)
BIOL 4400 Biological Communication (Capstone)
CHEM 2123 Organic Chemistry Lab
CHEM 2323 Organic Chemistry
MATH 2413 Calculus I (or MATH 2487 Honors) one-hour lecture
PHIL 3317 Perspectives on Science and Mathematics
PHYS 1401 General Physics I

PHYS 1402 General Physics II

2 – Diversity of Life – 12 hours (9 advanced minimum)

Complete 12 advanced hours from the following sections:

a – Plants – 3 hours minimum (3 advanced minimum)

Choose at least one:

BIOL 3408 Plant Morphology
BIOL 4318 Ethnobotany
BIOL 4405 Plant Physiology
BIOL 4406 Mycology
BIOL 4408 Plant Pathology
BIOL 4410 Marine Botany
BIOL 4414 Plant Taxonomy
BIOL 4420 Plant Anatomy

b – Animals – 3 hours minimum

Choose at least one:

BIOL 2428 Comparative Vertebrate Anatomy
BIOL 3345 Animal Nutrition
BIOL 3405 Histology
BIOL 3407 Comparative Embryology
BIOL 3411 Mammalian Physiology
BIOL 3414 Invertebrate Zoology
BIOL 4319 Medical Entomology
BIOL 4402 Marine Zoology
BIOL 4404 Ichthyology
BIOL 4407 Animal Parasitology
BIOL 4409 Herpetology
BIOL 4411 Ecological Physiology of Animals
BIOL 4412 Ornithology
BIOL 4415 Entomology
BIOL 4416 Mammalogy
BIOL 4419 Aquatic Entomology
BIOL 4427 Marine Animal Field Studies
BIOL 4432 Animal Behavior

c – Microbiology – 4 hours minimum (4 advanced minimum)

Choose at least one:

BIOL 3401 General Microbiology
BIOL 3403 Medical Microbiology and Immunology
BIOL 4413 General Virology
BIOL 4417 Bacterial Genetics
BIOL 4424 Microbial Ecology

C – UTEACH CERTIFICATION – 21 HOURS (19 advanced)

Area of Certification: Life Science (7-12)

UTCH 1101 Inquiry Approaches to Teaching
UTCH 1102 Inquiry-Based Lesson Design
UTCH 3301 Knowing and Learning in Mathematics and Science
UTCH 3302 Classroom Interactions
UTCH 3303 Project-Based Instruction
UTCH 4101 Apprentice Teaching Seminar
UTCH 4601 Apprentice Teaching
READ 4305 Content Area Literacy

TOTAL CREDIT HOURS FOR GRADUATION – 124 HOURS
TOTAL ADVANCED HOURS – 56 HOURS

ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:

Progression requirements

1. Admission to the College of Education is required for participation in Apprentice Teaching and Seminar (UTCH 4101, 4601). Students unable to be admitted to UTCH 4601 and UTCH 4101 will be required to substitute 3 advanced hours, as recommended by advisor.

Graduation requirements

1. Minimum GPA of 2.75 is required for graduation. BIOL 1406 (or BIOL 1487 Honors), BIOL 1407 (or BIOL 1488 Honors), CHEM 1311/ 1111, CHEM 1312/1112, UTCH 1101, UTCH 1102, UTCH 3301, UTCH 3302, UTCH 3303, UTCH 4101, UTCH 4601 with a grade of 'C' or better grade in all of these courses; and approval of UTeach portfolio are required for graduation.
2. In addition to the graduation requirements listed in the UTRGV 2017-2018 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.