

# Bachelor of Science in Biology (UTeach Certification 7-12)

## 2014 - 2015 Catalog

### The University of Texas-Pan American

This document provides a list of the UTPA courses required for the major and their equivalent UTRGV courses.

A significant number of courses have changed their course prefix, number, and title.

For any additional information, please visit the Academic Advising Center.

<b>UTPA Courses</b>	<b>Course Equivalents at UTRGV</b>
<b>A – GENERAL EDUCATION CORE – 43 HOURS</b>	
<b>Natural Sciences – 8 hours</b>	
CHEM 1301/1101 General Chemistry I and Lab	CHEM 1311/1111 General Chemistry I and Lab
CHEM 1302/1102 General Chemistry II and Lab	CHEM 1312/1112 General Chemistry II and Lab
<b>Humanities</b>	
<b>Philosophy and Modern/Classical Language Literature – 3 hours</b>	
PHIL 3301 Philosophy in Science and Mathematics	MATE 3317 Perspectives in Mathematics and Science
<b>B – MAJOR REQUIREMENTS – 38 HOURS (27 advanced)</b>	
<b>a – Biology Core – 18 hours (10 advanced)</b>	
BIOL 1401 General Biology I (or BIOL 1487 Honors)	BIOL 1406 General Biology I (or BIOL 1487 Honors)
BIOL 1402 General Biology II (or BIOL 1487 Honors)	BIOL 1407 General Biology II (or BIOL 1487 Honors)
BIOL 4100 Seminar	Recommended alternative: BIOL 4199 Research Problems in Biology
BIOL 4315 Inquiry-Based Science	BIOL 4315 Inquiry-Based Science and Laboratory Techniques
BIOL 4391 Functions and Modeling	Recommended alternative: BIOL 3330 Functions and Modeling
BIOL 4392 Research Methods	BIOL 4392 Research Methods in the Science and Mathematics Classroom
<b>b – Designated Electives – 20 hours (17 advanced)</b>	
<i>Select at least 3 hours from each of the following areas:</i>	
<b>i – Molecular or Cellular Biology</b>	
<i>Choose at least one:</i>	
BIOL 3406 Developmental Mechanisms	BIOL 3406 Developmental Mechanisms
BIOL 3412 Cell Biology	BIOL 3412 Cell Biology
BIOL 3415 Molecular Biology	BIOL 3415 Molecular Biology
BIOL 4330 Molecular Evolution	BIOL 4330 Molecular Evolution
BIOL 4404 General Virology	BIOL 4413 General Virology
BIOL 4416 Environmental Toxicology	Recommended alternative: BIOL 4316 Environmental Toxicology
BIOL 4420 Biotechnology	BIOL 4421 Biotechnology
<b>ii – Genetics or Evolution</b>	
<i>Choose at least one:</i>	
BIOL 3301 Biological Evolution	BIOL 3301 Biological Evolution
BIOL 3413 Genetics	BIOL 3413 Genetics
<b>iii – Environmental Biology</b>	
<i>Choose at least one:</i>	
BIOL 2305 Environmental Biology	Recommended alternative: BIOL 2406 Environmental Biology <u>or</u> ENVR 1401 Environmental Science I
BIOL 3409 Ecology	BIOL 3409 Ecology
BIOL 4426 Marine Ecology Zoology	BIOL 4426 Marine Ecology
<b>iv – Zoology/Animal Biology</b>	
<i>Choose at least one:</i>	
BIOL 3310 Neurobiology	BIOL 3310 Neurobiology
BIOL 3405 Histology	BIOL 3405 Histology
BIOL 3407 Comparative Embryology	BIOL 3407 Comparative Embryology
BIOL 3414 Invertebrate Zoology	BIOL 3414 Invertebrate Zoology
BIOL 4303 Mammalogy	BIOL 4416 Mammalogy
BIOL 4304 Ichthyology	BIOL 4404 Ichthyology

BIOL 4318 Medical Entomology  
BIOL 4402 Marine Zoology  
BIOL 4407 Animal Parasitology  
BIOL 4409 Herpetology  
BIOL 4412 Ornithology  
BIOL 4415 Entomology  
BIOL 4419 Aquatic Entomology  
BIOL 4422 Neurobiology Methods Botany

**v – Plant Botany**

*Choose at least one:*

BIOL 3408 Plant Morphology  
BIOL 4318 Plant Physiology  
BIOL 4403 Remote Sensing  
BIOL 4405 Plant Physiology  
BIOL 4406 Mycology  
BIOL 4408 Plant Pathology  
BIOL 4410 Marine Botany  
BIOL 4414 Plant Taxonomy  
BIOL 4418 Ethnobotany  
BIOL 4424 Microbial Ecology Prokaryotic Biology

**vi – Prokaryotic Biology**

*Choose at least one:*

BIOL 3401 General Microbiology  
BIOL 3403 Medical Microbiology and Immunology  
BIOL 4317 Bacterial Genetics  
BIOL 4417 Disease Epidemiology  
BIOL 4424 Microbial Ecology

**C – UTEACH CERTIFICATION – 21 HOURS (19 advanced)**

UTCH 1101 Inquiry Approaches to Teaching  
UTCH 1102 Inquiry-Based Lesson Design  
UTCH 3301 Knowing and Learning  
UTCH 3302 Classroom Interaction  
UTCH 3303 Project-Based Instruction  
~~UTCH 4601 Apprentice Teaching~~  
~~UTCH 4101 Apprentice Teaching Seminar~~  
READ 4351 Learning Through Literacy

**D – MINOR – 18 HOURS (9 advanced minimum)**

BIOL 4318 Ethnobotany  
BIOL 4402 Marine Zoology  
BIOL 4407 Animal Parasitology  
BIOL 4409 Herpetology  
BIOL 4412 Ornithology  
BIOL 4415 Entomology  
BIOL 4419 Aquatic Entomology  
BIOL 4422 Neurobiology Methods

BIOL 3408 Plant Morphology  
BIOL 4318 Ethnobotany  
BIOL 4403 Introduction to Remote Sensing Technology  
BIOL 4405 Plant Physiology  
BIOL 4406 Mycology  
BIOL 4408 Plant Pathology  
BIOL 4410 Marine Botany  
BIOL 4414 Plant Taxonomy  
BIOL 4418 Electron Microscopy  
BIOL 4424 Microbial Ecology

BIOL 3401 General Microbiology  
BIOL 3403 Medical Microbiology and Immunology  
BIOL 4317 Disease Epidemiology  
BIOL 4417 Bacterial Genetics  
BIOL 4424 Microbial Ecology

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 4601 Apprentice Teaching  
UTCH 4101 Apprentice Teaching Seminar  
READ 4305 Content Area Literacy

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

**TOTAL ADVANCED HOURS – 55 HOURS**