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# Biology: UTeach, B.S.

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## General Education

(see **General Education Requirements** for list of approved courses)

### Rhetoric and Composition: (6 hours)

- Two approved courses in rhetoric and composition

### Mathematics: (3 hours)

- One approved mathematics course

### Statistics: (3 or 4 hours)

- **MATH 2100 - Introductory Statistics**

*Students who have taken ENGR 2220, HHP 4010, MATH 3100, 4110, PSY 2010 or SOC 2500 and subsequently changed their major to Biology will have satisfied this requirement.*

### Natural Sciences: (7-8 hours)

- Two approved natural science courses, at least one including a laboratory component

### Humanities and Fine Arts: (6 hours)

- One approved fine arts courses
- **UTSM 3010 - Perspectives on Science and Mathematics \***

### Cultures and Civilizations: (9 hours total)

- Option A: Western Humanities I and II and one approved Non-Western Cultures and Civilizations course or
- Option B: World Civilization I, II, III

### Behavioral and Social Sciences: (6 hours)

- Two approved behavioral or social science courses in two different disciplines

## Program Requirements

- **MATH 2100 - Introductory Statistics**
- **MATH 1130 - College Algebra**
- **MATH 1830 - Calculus for Management, Life, and Social Sciences**  
or
- **MATH 1710 - Precalculus I**
- **MATH 1720 - Precalculus II**
- **MATH 1950 - Calculus with Analytic Geometry I**  
*(Initial course in the Mathematics sequence is dependent upon Placement)*
- **CHEM 1110 - General Chemistry I**
- **CHEM 1110L - General Chemistry I Laboratory**
- **CHEM 1120 - General Chemistry II**
- **CHEM 1120L - General Chemistry II Laboratory**
- **CHEM 3010 - Organic Chemistry I**
- **CHEM 3010L - Organic Chemistry I Laboratory**
- **CHEM 3020 - Organic Chemistry II**
- **CHEM 3020L - Organic Chemistry II Laboratory**
- **PHYS 1030 - General Physics - Mechanics and Heat**
- **PHYS 1030L - General Physics Laboratory - Mechanics and Heat**
- **PHYS 1040 - General Physics - Electromagnetism and Optics**
- **PHYS 1040L - General Physics Laboratory - Electromagnetism and Optics**  
or

- **GEOL 1110 - Physical Geology**
  - **GEOL 1110L - Physical Geology Laboratory**
  - **GEOL 1120 - Historical Geology**
  - **GEOL 1120L - Historical Geology Laboratory**
- (PHYS 1030/1030L and 1040/1040L are recommended for prospective graduate students.)*

## **Biology courses:**

### **Introductory Biology (all 3 courses required):**

- **BIOL 1110 - Principles of Biology I**
- **BIOL 1120 - Principles of Biology II**
- **BIOL 1130 - Principles of Biology III**

### **Core (all courses are required):**

- **BIOL 3060 - Ecology**
- **BIOL 3070 - Ecology Laboratory**
- **BIOL 3250 - Genetics**
- **BIOL 3260 - Genetics Laboratory**
- **BIOL 3350 - Evolution**

### **Survey (select 1 Botany course and 1 Zoology course):**

#### **Botany (select 1 course):**

- **BIOL 4150 - Mycology**
- **BIOL 4180 - Plant Morphology**
- **BIOL 4190 - Plant Taxonomy**

#### **Zoology (select 1 course):**

- **BIOL 4050 - Comparative Vertebrate Zoology**
- **BIOL 4090 - Herpetology**
- **BIOL 4110 - Ichthyology**
- **BIOL 4130 - Invertebrate Zoology**
- **BIOL 4140 - Mammalogy**
- **BIOL 4170 - Ornithology**

*(Courses offered in Botany and Zoology at Gulf Coast Research Laboratory may be substituted. Approval of the department head required.)*

### **Cell and Physiology (select 1 course):**

- **BIOL 2100 - Microbiology and Health**
- **BIOL 4220 - Principles of Microbiology**

### **Advanced Ecology and Evolution (select 1 course):**

- **BIOL 4400 - Tropical Marine Ecology**
- **BIOL 4410 - Animal Behavior**
- **BIOL 4420 - Biogeography**
- **BIOL 4430 - Bioremediation**
- **BIOL 4440 - Developmental Vertebrate Embryology**
- **BIOL 4500 - Systematics**
- **BIOL 4510 - Environmental and Ecological Genetics**
- **BIOL 4520 - Limnology and Reservoir Ecology**
- **BIOL 4530 - Microbial Ecology**
- **BIOL 4540 - Plant Ecology**

### **Special Topics Electives:**

- **BIOL 4610r - Biology Seminar**
- **BIOL 4620 - Economic Botany**
- **BIOL 4630 - Endocrinology**
- **BIOL 4680 - Introduction to Soil Resources**
- **BIOL 4710 - Histology**
- **BIOL 4720 - Immunology**
- **BIOL 4740 - Virology**
- **BIOL 4750 - Dendrology**

## **UTeach Requirements:**

- **UTSM 1010 - Step One: Inquiry Approaches to Teaching Science and Mathematics** and
- **UTSM 1020 - Step Two: Inquiry Based Lesson Design in Math and Science**

or

- **UTSM 1030 - Step One/Step Two: Inquiry-Based Mathematics and Science Teaching**
- **UTSM 2010 - Knowing and Learning**
- **UTSM 2020 - Classroom Interactions**
- **UTSM 3010 - Perspectives on Science and Mathematics #**
- **UTSM 3020 - Research Methods in Science**
- **UTSM 4010 - Project-Based Instruction**
- **UTSM 4020 - Apprentice Teaching**

### **Additional Requirements for the Major:**

- A minimum grade of C must be earned in **BIOL 3060, BIOL 3250** or **BIOL 3350** in order to take a Survey or Cell and Physiology course. See course descriptions for specific prerequisites.
- A minimum grade of C must be earned in **BIOL 3060, BIOL 3250** and **BIOL 3350** in order to take an Advanced Ecology and Evolution course. See course descriptions for specific prerequisites.

### **Additional Information and Notes**

Minimum of 39 hours of 3000 and 4000 level courses.

Electives to complete 124 hours.

In addition to the department and university requirements there are the following minimum requirements for graduation with licensure: 2.5 cumulative average, 2.5 at UTC, 2.5 average in UTSM courses with no grade lower than C, 2.5 average in courses in licensure content area courses with no grade lower than C.

See **Degree and Graduation Requirements** for additional requirements.

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