

# BIOLOGY MAJOR, BACHELOR OF SCIENCE IN BIOLOGY (BS)

**Graduation Requirements:** complete the Educational Testing Service (ETS) Major Field Test for Biology.

Click here (<http://catalog.ewu.edu/archives/2021-2022/academic-affairs/pre-professional/>) for Information about Pre-professional programs such as pre-Veterinary medicine, and Pre-Pharmacy.

**Grade Requirements:** a cumulative GPA  $\geq 2.0$  for all courses in student's curriculum in Biology.

## Required Biology Courses

BIOL 171	BIOLOGY I	5
BIOL 172	BIOLOGY II	5
BIOL 173	BIOLOGY III	5
BIOL 270	BIOLOGICAL INVESTIGATION	3
BIOL 310	FUNDAMENTALS OF GENETICS	5
Choose one of the following		
BIOL 301	MICROBIOLOGY	5
or BIOL 302	BOTANY	
or BIOL 303	INVERTEBRATE ZOOLOGY	
or BIOL 304	VERTEBRATE ZOOLOGY	
Choose one of the following		
BIOL 423	EVOLUTION	4-5
or BIOL 440	ECOLOGY	
Choose one of the following		
BIOL 436	CELL BIOLOGY	5
or BIOL 438	MOLECULAR BIOLOGY	
Choose one of the following		
BIOL 334	HUMAN ANATOMY AND PHYSIOLOGY III	4-5
or BIOL 351	PRINCIPLES OF ANIMAL PHYSIOLOGY	
or BIOL 352	PRINCIPLES OF PLANT PHYSIOLOGY	
or BIOL 353	PRINCIPLES OF MICROBIAL PHYSIOLOGY	
<b>Required Supporting Courses</b>		
BIOL 380	DATA ANALYSIS FOR BIOLOGISTS	5
or MATH 161	CALCULUS I	
or MATH 380	ELEMENTARY PROBABILITY AND STATISTICS	
CHEM 171 & 171L	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LABORATORY I	15
& CHEM 172	and GENERAL CHEMISTRY II	
& CHEM 172L	and GENERAL CHEMISTRY LABORATORY II	
& CHEM 173	and GENERAL CHEMISTRY III	
& CHEM 173L	and GENERAL CHEMISTRY LABORATORY III	
<b>Electives—21 of 36 credits must be in Biology, non-Biology electives must be approved by faculty advisor.</b>		
<b>Required Senior Capstone</b>		
BIOL 490	SENIOR CAPSTONE	5
Total Credits		102-104

## University Competencies and Proficiencies

English (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#newitemtext>)

Quantitative and Symbolic Reasoning (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#mathcompproficienciestext>)  
 Placement and Clearance Exams (<http://catalog.ewu.edu/archives/2021-2022/placement/>)  
 Prior Learning/Sources of Credit AP, CLEP, IB (<http://catalog.ewu.edu/archives/2021-2022/prior-learning/>)

## General Education Requirements (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#generaleducationrequirementstext>) (GER)

- Minimum Credits—180 cumulative credit hours
  - 60 upper-division credits (300 level or above)
  - 45 credits in residence (attendance) at Eastern, with at least 15 upper-division credits in major in residence at Eastern
- Minimum Cumulative GPA  $\geq 2.0$

## Breadth Area Core Requirements (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#generaleducationcorerequirementsgecrtxt>) (BACR)

Humanities and Arts (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#humanitiesandfineartsgecrtxt>)  
 Natural Sciences (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#naturalsciencesgecrtxt>)  
 Social Sciences (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#socialsciencesgecrtxt>)

## University Graduation Requirements (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#universitygraduationrequirementstext>) (UGR)

Diversity Course List (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#cultureandgenderdiversityintheuslisttext>)  
 Foreign Language (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#foreignlanguageugrtxt>) (for Bachelor of Arts)  
 Global Studies Course List (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#internationalstudiesrequirementstext>)  
 Minor or Certificate (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#majorminororcertificateugrtxt>)  
 Senior Capstone Course List (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#capstonecourselisttext>)

All admitted students must officially Declare a Major (<https://inside.ewu.edu/center-for-academic-advising-and-retention/academic-planning-tools/declare-your-major/>) by the time they reach 90 credits (junior standing).

Application for Graduation (use EagleNET (<https://inside.ewu.edu/eaglenet/>)) must be made at least two terms in advance of the term you expect to graduate (undergraduate and post-baccalaureate).

Use the Catalog Archives (<https://catalog.ewu.edu/archives/>) to determine two important catalog years (<http://catalog.ewu.edu/archives/2021-2022/undergraduate-degree/#activecatalogruletext>).

SOAR (<https://soar.ewu.edu/selfservice/general/home.html>) calculates based on these two catalog years.

1. The catalog *in effect at the student's first term* of current matriculation is used to determine **BACR** (Breadth Area Credit Requirements) **and** **UGR** (Undergraduate Graduation Requirements).
2. The catalog *in effect at the time the student declares a major or minor* is used to determine the program requirements.

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**Students who successfully earn a BS in Biology from EWU should be able to do the following:**

- apply basic concepts of cell biology, including understanding key terms;
- apply basic concepts of ecology and evolution, including understanding key terms;
- apply basic concepts of molecular biology and genetics, including understanding key terms;
- apply basic concepts of organismal biology, including understanding key terms;
- apply basic statistics to analyze and interpret quantitative data;
- compose written documents that communicate information in a manner consistent with scientific norms;
- deliver presentations that communicate information in a manner consistent with scientific norms;
- use scientific practices to generate evidence to support or refute proposed explanations for natural phenomena.