

# MINOR: BIOLOGY

## Student Learning Outcomes

Students graduating from this program will:

- Identify fundamental concepts in the biological sciences, including the relationship between structure and function at all levels of biological organization, evolution and the role of natural selection in the process, ecological relationships between organisms and their environment.
- Describe cellular structure and explain the major biochemical processes that occur in cells.
- Describe and explain the mechanisms of heredity and the flow of genetic information.
- Apply knowledge in basic mathematics, chemistry, and physics to solve biological problems.
- Employ techniques and procedures commonly used in modern biology laboratories.
- Analyze and critically evaluate scientific data.
- Write clearly about topics in the biological sciences for a peer or professional audience.

## Program Requirements

Code	Title	Credits
BIOLOGY 108L & BIOLOGY 108 or MOTRBIOL 100LB or MOTRBIOL 150LB	General Biology I Laboratory and General Biology I MOTR Essential Biology w/ Lab - Botany MOTR Biology with Lab	4
BIOLOGY 109L & BIOLOGY 109 or MOTRBIOL 100LZ or MOTRBIOL 150LZ	General Biology II Laboratory and General Biology II MOTR Essential Biology with Lab MOTR Biology w/Lab	4
BIOLOGY 202	Cell Biology	3
BIOLOGY 206	Genetics	3
Select one of the following laboratory courses:		2-3
BIOLOGY 199L	Methods in Biological Research	
BIOLOGY 218L or MOTRLIFS 100LA or MOTRLIFS 150LA	Introductory Anatomy Laboratory MOTR Anatomy focused Essentials in Human Biology with Lab MOTR Anatomy focused Human Biology w/Lab	
BIOLOGY 302L	Ecology Laboratory	
BIOLOGY 312L	Laboratory in Genetics and Developmental Biology	
BIOLOGY 313L	Laboratory in Microbiology	
BIOLOGY 316L	Principles Of Physiology Laboratory	
BIOLOGY 328L	Laboratory in Histology and Cellular Ultrastructure	
BIOLOGY 360L	Molecular Biology Research Methods	
BIOLOGY 370L	Cell Biology Research Methods	
BIOLOGY 338L	Comparative Vertebrate Anatomy Laboratory	
Upper-level Biology Majors Courses <sup>1</sup>		7
<b>Total Credits</b>		<b>23-24</b>

<sup>1</sup> The seven hours may include any of the upper-level lab courses listed above.

Total Biology hours:21

Standards that must be met for the minor:

1. Only grades of C- or better will be allowed to count toward fulfillment of the required 21 hours of biology coursework.
2. Students seeking a biology minor must have a minimum cumulative 2.0 UM biology GPA in courses used to fulfill the minor requirements.
3. At least 11 of the 21 required hours must be earned from BIOLOGY or LIFE-SCI coursework at UMKC.
4. At least 4 of the 7 hours of junior/senior level coursework must be earned from BIOLOGY or LIFE-SCI coursework at UMKC.