

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 MOTRBIO 100LB or MOTRBIO 150LB | General Biology I Laboratory and General Biology I MOTR Essentials in Biology w/ Lab - Botany MOTR Biology with Lab | 4 |
| BIOLOGY 109L & BIOLOGY 109 or MOTRBIO 100LZ or MOTRBIO 150LZ | General Biology II Laboratory and General Biology II MOTR Essentials in 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 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 312WL | Laboratory in Developmental Biology, Genetics and Cell Biology | |
| BIOLOGY 313L | Laboratory in Microbiology | |
| BIOLOGY 313WL | Laboratory in Microbiology | |
| BIOLOGY 360L | Laboratory in Biochemistry and Molecular Biology | |
| BIOLOGY 360WL | Laboratory in Biochemistry and Molecular Biology | |
| BIOLOGY 328L | Laboratory in Histology and Cellular Ultrastructure | |
| BIOLOGY 328WL | Laboratory in Histology and Cellular Ultrastructure | |
| BIOLOGY 338L | Comparative Vertebrate Anatomy Laboratory | |
| Upper-level Biology Majors Courses ¹ | | 7 |
| Total Credits | | 23-24 |

¹ 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.