

BIOLOGICAL EDUCATION MINOR

This minor contains additional course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete the education/teaching concentration of a major in a teaching content area plus the Teacher Education Program through the Department of Teaching and Learning. Additional teaching areas can be added through completion of the education/teaching concentration of a major or education/teaching minor in that content area. Secondary Education Licensure Program (<http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php>)

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- Licensure Degree Requirements (<http://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/lic-secondary-licensure/>)

To complete this minor, you need to contact the Teaching and Learning Department. Approvals for this concentration must come from the Teaching and Learning Department.

Individuals completing this minor must also complete the education/teaching concentration of a major in another teaching content area.

Minor - Biological Education

Summary

Code	Title	Hours
	Biology/Microbiology Lower-Division Core	17
	Upper-Division Core Courses	5
	Required Content Courses Outside the Minor	23
Total Hours		45

Degree Specific Credits: 45

Required Cumulative GPA: 2.0

Biology/Microbiology Lower-Division Core

Note: The lower-division core should be completed before attempting most upper division BIO- courses. AP Biology credit with a score of 3 may be substituted for either BIOB 160N/BIOB 161N or BIOB 170N/BIOB 171N.

Code	Title	Hours
Complete all of the following courses:		
BIOB 160N	Principles of Living Systems	3
BIOB 161N	Principles of Living Systems Lab	1
BIOB 170N	Principles of Biological Diversity	3
BIOB 171N	Principles of Biological Diversity Lab	2
BIOB 260	Cellular and Molecular Biology	4
BIOB 272	Genetics and Evolution	4
Total Hours		17

Minimum Required Grade: C-

Upper-Division Core Courses

Code	Title	Hours
BIOM 360	General Microbiology	3
BIOM 361	General Microbiology Lab	2
Total Hours		5

Minimum Required Grade: C-

Required Content Courses Outside of the Minor

Mathematics - Calculus

Note: Choose M 171, if you plan to take additional calculus courses, or if you plan a double major or minor in a field that requires more calculus (e.g. math, physics, biochemistry, computer science).

Code	Title	Hours
Complete one of the following courses:		
M 162	Applied Calculus	4
M 171	Calculus I	4
Total Hours		4

Minimum Required Grade: C-

Mathematics - Statistics

Code	Title	Hours
Complete the following course:		
STAT 216	Introduction to Statistics	4
Total Hours		4

Minimum Required Grade: C-

Chemistry

Code	Title	Hours
Complete all of the following courses:		
CHMY 121N	Introduction to General Chemistry	4
CHMY 123	Introduction to Organic and Biochemistry	4
CHMY 485	Laboratory Safety	1
Total Hours		9

Minimum Required Grade: C-

Environmental Geosciences

Code	Title	Hours
Complete one of the following courses:		
GEO 103N	Introduction to Environmental Geology	3
GEO 105N	Oceanography	3
Total Hours		3

Minimum Required Grade: C-

Education

Note: The course number EDU 497 covers many different teaching method courses. The section of EDU 497 entitled "Methods: 5 - 12 Science" is required for the Teaching Biology minor.

Code	Title	Hours
Complete the following course:		
EDU 497	Teaching and Assessing	4
Total Hours		4

Minimum Required Grade: C-

Secondary Teaching Licensure

Note: For endorsement to teach Biology, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (<http://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/lic-secondary-licensure/>). For more information, see the Teaching and Learning Department (<http://catalog.umt.edu/colleges-schools-programs/education/teaching-learning/>).