



Alpena Community College

2025/26

Western Michigan University Biology Curriculum Guide

Pre-biology requirements:

- The following courses are the prerequisites for biology, biomedical sciences, and biology-secondary education (high school level) majors.
- This major is a good choice for students going into entry-level employment in the field of biology, biology graduate programs, or professional schools such as physician assistant, physical therapy, medical, dental, and veterinary schools.
- A **minimum of 15 credits of biology** must be earned at WMU for the major.
- Only departmental courses in which a grade of “C” or better is obtained may be counted toward a major or minor in Biological Sciences.

WMU courses		ACC courses
BIOS 1600	Biological Form & Function	BIO 162
BIOS 1610	Molecular & Cellular Biology	BIO 161
BIOS 2020	General Botany	BIO 210 (elective for biomed majors)
BIOS 2030	General Zoology	BIO 211 (elective for biomed majors)
BIOS 2110	Human Anatomy	BIO 201
CHEM 1100 1110	General Chemistry I & Lab I	CEM 121
CHEM 1120 1130	General Chemistry II & Lab II	CEM 122
CHEM 3750 3760	Organic Chemistry I & Lab I	CEM 221
CHEM 3770 3780	Organic Chemistry II & Lab II	CEM 222
PHYS 1130 1140	General Physics I & Lab I	PHY 121
PHYS 1150 1160	General Physics II & Lab II	PHY 122
MATH 1220 (or) 2000	Calculus I or Calc with Applications	MTH 131 or 130
STAT 2160	Introductory Statistics	MTH 223

General education requirements:

- Please refer to the [WMU Essential Studies \(WES\) transfer guide](#) that lists courses meeting WES requirements at WMU that may be taken at Alpena.
- All students graduating from the College of Arts & Sciences must complete the College of Arts and Sciences Essentials (**CASE**). This includes world language proficiency (detailed in

next bullet point), ENGL 1050/1060 sequence, and by completing the baccalaureate writing requirement.

- All students graduating from the College of Arts & Sciences must meet the world language proficiency by completing two semesters (6-8 hours) of the same foreign language or American Sign Language or passing WMU's proficiency by exam. Please contact the College of Arts & Sciences Undergraduate Advising Office at (269) 387-4366 with any questions. Neither the MACRAO Agreement nor the Michigan Transfer Agreement satisfy the world language requirement.
 - If the student's first language is not English, the student is exempt from this requirement. Determination of eligibility for this exemption is based on whether the student was required to take the TOEFL test for admission and can be verified through the WMU departments of Spanish or World Languages and Literatures.
- You may email the WMU advisors in the College of Arts & Sciences for further clarification about **WES or CASE**.

Important notes:

- The chemistry, physics, and mathematics courses are called "cognate" requirements for biology department majors and may not be waived.
- The physics and chemistry courses have a minimum prerequisite of successful completion of high school advanced algebra (**MTH 113 at ACC**).
- For questions about **WES** or biology major requirements please contact the WMU College of Arts & Sciences Biology advisor at the email address given below.
- Prior to enrolling in WMU courses, students should consult the biology advisor listed below.

Approved by:

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For general education advising or world language requirement questions:
wmich.edu/arts-sciences/advising