



Alpena Community College

2021/22

## Western Michigan University Chemistry Curriculum Guide

The WMU Department of Chemistry offers a choice of five majors:

- **Chemistry major** - this 35-credit hour major in the College of Arts & Sciences is designed for students interested in graduate studies in chemistry. This major also suits students interested in teaching chemistry at the middle/high school level after completion of a Master of Arts in Teaching: Secondary Education.
- **Chemistry major ACS Certified** - this 42-credit hour major is certified by the American Chemical Society and is for students planning to enter the chemical industry, though it may be taken by students planning on graduate school study of chemistry.
- **Biochemistry** - this 36-credit hour major is recommended for students interested in careers in health sciences (medicine, dentistry, nutrition, pharmacology, etc.) or a graduate career in biochemistry or molecular biology.
- **Business-oriented chemistry major** - this 37-credit hour major is available to provide the chemical understanding needed if you are preparing for a career in the chemical industry, outside the laboratory. A minor will be chosen in the Haworth College of Business, and students are prepared to enter areas of management, sales, and some aspects of government service.
- **Geochemistry major** - this 68-credit hour major is designed for students interested in the fields of geochemistry or environmental chemistry and is advised in the department of Geological and Environmental Sciences.

### Important Information:

- You must meet one of the following math requirements: **MATH ACT** score of 27 or higher or **MATH SAT** score of 640 or successful completion of **MATH 1110** (MTH 113 at ACC) with a grade of a "C" or higher or score 61% on the ALEKS math placement exam. More information about the ALEKS math placement can be found at <https://wmich.edu/math/placement>.
- All chemistry majors must meet with the College of Arts and Sciences chemistry advisor about major or minor, WES, and degree requirements. You must make an advising appointment to declare your major or minor.
- Chemistry majors must complete a minor (except Geochemistry). Business-oriented chemistry majors will be required to complete a minor in General Business, Management, or Marketing in the Haworth College of Business (HCoB).
- Chemistry majors must complete their last 14 credit hours in the department of Chemistry at WMU.

- Chemistry minors must complete at least 8 credits at WMU.

**Courses that can be taken at Alpena:**

**WMU courses**

CHEM 1100|1110  
CHEM 1120|1130  
CHEM 3750|3760  
CHEM 3770|3780  
MATH 1220  
MATH 1230  
MATH 2720  
PHYS 2050|2060  
PHYS 2070|2080

**Alpena courses**

CEM 121  
CEM 122  
CEM 221 (elective for Geochem majors)  
CEM 222 (elective for Geochem majors)  
MTH 131  
MTH 132  
MTH 231 (elective for Geochem majors)  
PHY 221 (elective for Geochem majors)  
PHY 222 (elective for Geochem majors)

**Business-oriented majors may take these additional courses:**

BUS 1750	BUS 121
MKTG 2500	BUS 241
ACTY 2100	BUS 123

**Biochemistry majors may take these additional courses:**

BIOS 1600	BIO 162
BIOS 1610	BIO 161

**Geochemistry majors may take these courses:**

**\*\*\*Very important note:** Geochemistry majors only need the following courses: **CEM 121 and 122, and CHEM 2250|2260** (not available at ACC), and 8 hours of **upper level chemistry** course-work. You will also need 11 credits of **Math and General Science** (see below), and 9 credits of Geoscience electives (not available at ACC).

**Math and General Science or Chemistry electives:**

CHEM 3750 3760	CEM 221
CHEM 3770 3780	CEM 222
BIOS 2320	BIO 227
MATH 2720	MTH 231
MATH 3740	MTH 232
PHYS 2050/2060	PHY 221
PHYS 2070/2080	PHY 222

**General education requirements:**

- Please see the [WMU Essential Studies \(WES\) transfer guide](#) for requirements for all students.
- 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 MTA satisfy the world language requirement.

- If the student's first language is not English, then 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 Language and Literatures.

**Contact information:**

**College of Arts and Sciences Chemistry advisor:**

**Sean Williams**

[chem-advising@wmich.edu](mailto:chem-advising@wmich.edu)

**(269) 387 4341**

**Wmich.edu/chemistry/advising, for appointments**