



North Central Michigan 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** (MATH 120 at NCMC) 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 in the department of Chemistry at WMU.
- Chemistry minors must complete at least 8 credits at WMU.

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

**NCMC courses**

CEM 121

CEM 122

CEM 231 (elective for Geochem majors)

CEM 232 (elective for Geochem majors)

MATH 150

MATH 210

MATH 215 (elective for Geochem majors)

PHY 230 (elective for Geochem majors)

PHY 231 (elective for Geochem majors)

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

BUS 1750

B 161

MKTG 2500

M 200

ACTY 2100

B 211

**Geochemistry majors may take these courses:**

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

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

CHEM 3750|3760

CEM 231

CHEM 3770|3780

CEM 232

BIOS 2320

BIO 226

MATH 2720

MATH 215

PHYS 2050|2060

PHY 230

PHYS 2070|2080

PHY 231

**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](http://wmich.edu/chemistry/advising), for appointments**