



Northwestern 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** (MTH 111 at Northwestern) 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 credits in the department of Chemistry at WMU.

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

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

<b>WMU courses</b>	<b>NMC courses</b>
CHEM 1100 1110	CHM 150
CHEM 1120 1130	CHM 151
CHEM 3750 3760	CHM 250 (elective for Geochem majors)
CHEM 3770 3780	CHM 251 (elective for Geochem majors)
MATH 1220	MTH 141
MATH 1230	MTH 142
MATH 2720	MTH 241 (elective for Geochem majors)
PHYS 2050 2060	PHY 221 (elective for Geochem majors)
PHYS 2070 2080	PHY 222 (elective for Geochem majors)

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

BUS 1750	BUS 101
MKTG 2500	MKT 201
ACTY 2100	ACC 121

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

BIOS 1610	BIO 115
BIOS 1620	BIO 116
BIOS 2500	BIO 215

**Geochemistry majors may take these courses:**

**\*\*\*Very important note:** Geochemistry majors only need the following Chemistry courses: **CHM 150, 151, CHEM 2250|2260** (not available at NMC), and 9 hours of **upper level Chemistry** course-work. You will also need 11 credits of **Math and General Science** (below), and 9 credits of Geoscience electives (not available at NMC).

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

CHEM 3750 3760	CHM 250
CHEM 3770 3780	CHM 251
BIOS 2320	BIO 208
BIOS 3010	BIO 260
MATH 2720	MTH 241
MATH 3740	MTH 251
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](http://wmich.edu/chemistry/advising), for appointments**