

CHEMISTRY MAJOR (M)

The goal of the Department of Physical Sciences at Concordia University Wisconsin is to develop competent scientists with a Christian worldview. The graduates of its programs will possess the current scientific knowledge and research/data interpretation skills so necessary for entering scientific or medical careers in industry, academia, or government. More importantly, they will be prepared to provide a Christian influence and ethical perspective to the debate on the science-related problems facing the world today.

Concordia offers a chemistry major that is certified by the American Chemical Society. This major includes 46 credits of chemistry and 16 credits of supplementary coursework (physics and mathematics).

The chemistry faculty has determined that chemistry students should be able to:

- Demonstrate an understanding of and ability to apply fundamental chemical concepts;
- Use common laboratory procedures and equipment, often as a member of a team, to gather meaningful data;
- Analyze and interpret data to arrive at appropriate conclusions;
- Apply principles of laboratory safety and chemical hygiene;
- Perform undergraduate research and conduct effective searches of the chemical literature;
- Communicate and summarize scientific information effectively and accurately in both oral and written form;
- Act ethically and responsibly, demonstrating an understanding of the role chemistry plays in societal issues; and
- Recognize that, though our scientific understanding of the universe continues to change, God's truth does not, for His ways are higher than our ways and His thoughts than our thoughts (Isaiah 55:9).

Code	Title	Hours
Core Requirements (https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/core/) ¹		45
Major Requirements		54
Electives		21
Minor: Optional		
Total Hours		120

¹ For transfer students, please see the Advanced Transfer Core (<https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/transfer-core/>).

Major Requirements

A student seeking a degree in chemistry must take:

Code	Title	Hours
Required Core Courses		
CHEM 141	General Chemistry I (Lab Science - 4 credits)	
MATH 201	Calculus I (Mathematics - 4 credits)	
Required Courses		
CHEM 142	General Chemistry II	4
CHEM 241	Organic Chemistry I	4
CHEM 242	Organic Chemistry II	4
CHEM 225	Analytical Chemistry	4

CHEM 235	Descriptive Inorganic Chemistry	4
CHEM 341	Physical Chemistry I	4
CHEM 342	Physical Chemistry II	4
CHEM 425	Biochemistry	4
CHEM 490	Chemistry Senior Seminar (1 credit per semester)	2
MATH 202	Calculus II	4
PHYS 171	University Physics I	4
PHYS 172	University Physics II	4
Select at least 8 credits of the following		8
CHEM 399	Chemistry Internship (1-4 credits)	
CHEM 426	Advanced Biochemistry (4 credits)	
CHEM 435	Advanced Organic Chemistry (4 credits)	
CHEM 445	Advanced Inorganic Chemistry (4 credits)	
CHEM 455	Instrumental Analysis (4 credits)	
CHEM 499	Undergraduate Research (up to 4 credits, 1-4 credits per semester)	

Total Hours **54**

² With approval from the Physical Sciences Department on an individual basis, a student may use a 4 credit upper-level biology or physics course in place of one of the courses listed here.