

# PHARMACEUTICAL SCIENCES MAJOR (M)

The Bachelor of Science in Pharmaceutical Sciences is designed for students who wish to earn both a B.S. and a Doctor of Pharmacy degree at Concordia University Wisconsin. Students complete the core requirements, many of the major requirements, and the general elective requirements during the first three years at CUW, then complete the remaining major requirements during their first year in the CUW School of Pharmacy.

## Program Learning Outcomes

A student earning a degree in pharmaceutical sciences will:

- Demonstrate an understanding of and ability to apply fundamental biological and chemical concepts;
- Analyze and interpret data to arrive at appropriate conclusions;
- Develop investigative and critical thinking skills to explore complex questions and solve challenging scientific problems;
- Demonstrate the ability to communicate scientific information effectively to both scientists and non-scientists; and
- Act ethically and responsibly, demonstrating an understanding of the role science plays in societal issues, particularly in regards to healthcare.

## Curriculum

Code	Title	Hours
Core Requirements ( <a href="https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/core/">https://catalog.cuw.edu/undergraduate/university/acad-prog/trad/core/</a> ) <sup>1</sup>		45
<b>Major Requirements</b>		<b>69</b>
<b>Electives</b>		<b>6</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> 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 Pharmaceutical Sciences must take:

Code	Title	Hours
<b>Required Core Courses</b>		
CHEM 141	General Chemistry I (Natural World, Lab Science 4 credits)	
MATH 205	Statistics I (Natural World, Mathematics 3 credits)	
<b>Required Courses</b>		
BIO 151	Functional Human Biology I	4
BIO 152	Functional Human Biology II	4
CHEM 142	General Chemistry II	4
CHEM 241	Organic Chemistry I	4
CHEM 242	Organic Chemistry II	4
MATH 201	Calculus I	4
CHEM 491	Chemistry Senior Seminar I	1
CHEM 492	Chemistry Senior Seminar II	1
PHYS 151	General Physics I	4

or PHYS 171	University Physics I	
PHYS 152	General Physics II	4
or PHYS 172	University Physics II	

The Pharmaceutical Sciences Major must also complete at least 7 credits from the following:

BIO 260	Biology of Microorganisms (4 credits)	
BIO 321	Cell Biology (4 credits)	
BIO 348	Genetics (4 credits)	
BIO 351	Immunology (3 credits)	
BIO 420	Molecular Biology (4 credits)	
BIO 430	Pharmacology (3 credits)	
CHEM 425	Biochemistry (4 credits)	
CHEM 426	Advanced Biochemistry (4 credits)	

**The pharmaceutical sciences major must also complete the following 28 credits in the pharmacy curriculum as a Doctor of Pharmacy Student**

PHAR 310	Pharmacy Biochemistry	4
PHAR 312	Pharmacy Anatomy and Physiology	5
PHAR 314	Pharmacy Microbiology	4
PHAR 320	Pharmaceutics I	2
PHAR 322	Pharmaceutics II	4
PHAR 330	Pharmacology and Medicinal Chemistry I	3
PHAR 340	Pharmacy and the Health Care System	3
PHAR 350	Pharmacotherapy I: Self Care	2
PHAR 352	Pharmacy Calculations	1