

PHARMACEUTICAL SCIENCE B.S. - NON-PROFESSIONAL CONCENTRATION

The Skaggs School of Pharmacy offers two concentrations in the B.S. in Pharmaceutical Sciences. This is the non-professional concentration that is open to all students whose primary career interests are in research and discovery, careers at pharmaceutical and biotechnology companies, and work in government institutions and agencies. This degree offers a broad pharmaceutical sciences background that will prepare students for work in disciplines critical to the discovery and development of new drugs and therapies as well as agencies regulating these disciplines. While it also meets pre-pharmacy requirements, it is not required for applying to the professional Doctor of Pharmacy program. Courses provided through the Doctor of Pharmacy program will have additional fees attached.

Note: Students enrolled in the Doctor of Pharmacy program who are interested in the B.S. in Pharmaceutical Sciences should look at the professional concentration in the B.S. in Pharmaceutical Sciences (<https://catalog.umn.edu/colleges-schools-programs/health/skaggs-school-of-pharmacy/bs-pharmaceutical-sciences/>).

Bachelor of Science - Pharmaceutical Sciences; Non-Professional Concentration

General Education Requirements

Information regarding these requirements can be found in the General Education Section (<http://catalog.umn.edu/academics/general-education-requirements/>) of the catalog.

Summary

Code	Title	Hours
Lower-Division Core Courses		50
Biology		
General and Organic Chemistry		
Physics		
Mathematics		
Communication & Social Sciences		
Upper-Division Core Courses		41
Total Hours		91

Degree Specific Credits: 91

Required Cumulative GPA: 2.00

Lower-Division Core Courses

Biology

Code	Title	Hours
Complete all of the following courses:		
BIOH 112	Human Form and Function I	3
BIOH 113	Human Form and Function II	3

BIOB 260	Cellular and Molecular Biology	4
Total Hours		10

Minimum Required Grade: C-

General and Organic Chemistry

Code	Title	Hours
Complete all of the following courses:		
CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	5
CHMY 143N & CHMY 144N	College Chemistry II and College Chemistry II Lab	5
CHMY 221 & CHMY 222	Organic Chemistry I and Organic Chemistry I Lab	5
CHMY 223	Organic Chemistry II	3
Total Hours		18

Minimum Required Grade: C-

Physics

Code	Title	Hours
Complete all of the following courses:		
PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	5
Total Hours		5

Minimum Required Grade: C-

Mathematics

Code	Title	Hours
Complete the following course:		
M 162	Applied Calculus	4
Complete one of the following courses:		
STAT 216	Introduction to Statistics	
PSYX 222	Psychological Statistics	
SOCI 202	Social Statistics	
Total Hours		8

Minimum Required Grade: C-

Communication & Social Sciences

Code	Title	Hours
Complete all of the following courses:		
COMX 111A or THTR 120A	Introduction to Public Speaking or Introduction to Acting I	3
PSYX 100S or SOCI 101S	Intro to Psychology or Introduction to Sociology	3
ECNS 201S	Principles of Microeconomics	3
Total Hours		9

Minimum Required Grade: C-

Upper-Division Core Courses

Code	Title	Hours
Complete all of the following courses:		
PHAR 329	Microbes & Medicines	4

PHAR 331	Pharmaceutics	4
PHAR 341	Pharmaceutical Pathophysiology I	4
PHAR 342	Pharmaceutical Pathophysiology II	4
PHAR 381	Pharmaceutical Biochemistry	4
PHAR 421	Medicinal Chemistry I	3
PHAR 422	Medicinal Chemistry II	3
PHAR 432	Clinical Pharmacokinetics	3
PHAR 443	Pharmacology & Toxicology I	4
PHAR 444	Pharmacology & Toxicology II	4
PHAR 494	Seminar	1
Total Hours		38

Minimum Required Grade: C-