

PHARMACOLOGY

Bachelor of Science - Chemistry; Pharmacology Concentration College Humanities & Sciences

Degree Specific Credits: 88

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

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

Lower Core Courses	45-46
General Chemistry	
Organic Chemistry	
Biochemistry and Biology	
Physics	
Mathematics	
Upper Core Courses	37-38
Analytical Chemistry	
Physical Chemistry	
Inorganic Chemistry	
Biochemistry	
Pharmacology	
Biology	
Advanced Electives	3
Ethics	3
Total Hours	88-90

Lower Core Courses

Rule: All subcategories must be completed

General Chemistry

Rule: Complete both 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
Total Hours		10

Minimum Required Grade: C-

Organic Chemistry

Rule: Complete all courses listed

CHMY 221	Organic Chemistry I	3
CHMY 222	Organic Chemistry I Lab	2
CHMY 223	Organic Chemistry II	3

CHMY 224	Organic Chemistry II Lab	2
Total Hours		10

Minimum Required Grade: C-

Biochemistry and Biology

Rule: Complete both courses

BCH 110	Intro Biology for Biochemists	3
BCH 111	Intro Biol for Biochemists Lab	1
BIOB 260	Cellular and Molecular Biology	4
Total Hours		8

Minimum Required Grade: C-

Physics

Select one of the following physics sequences: 10

PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	
PHSX 207N & PHSX 208N	College Physics II and College Physics II Laboratory	
OR		
PHSX 215N & PHSX 216N	Fund of Physics w/Calc I and Physics Laboratory I w/Calc	
PHSX 217N & PHSX 218N	Fund of Physics w/Calc II and Physics Laboratory II w/Calc	

Total Hours 10

Minimum Required Grade: C-

Mathematics

Select one of the following: 7-8

M 162 & M 263	Applied Calculus and Applied Differential Equations	
M 171 & M 172	Calculus I and Calculus II	

Total Hours 7-8

Minimum Required Grade: C-

Upper Core Courses

Rule: All subcategories must be completed

Analytical Chemistry

Rule: Complete all of the following courses

CHMY 311	Analytical Chem-Quant Analysis	4
CHMY 421	Advanced Instrument Analysis	4
Total Hours		8

Minimum Required Grade: C-

Physical Chemistry

Rule: Choose 1 of the listed courses

CHMY 360 or CHMY 373	Applied Physical Chemistry Phys Chem-Kntcs & Thrmodynms	3-4
Total Hours		3-4

Minimum Required Grade: C-

Inorganic Chemistry

Rule: Complete the following course

CHMY 401	Advanced Inorganic Chemistry	3
Total Hours		3

Minimum Required Grade: C-

Biochemistry

Rule: Complete the following courses

BCH 480	Advanced Biochemistry I	3
BCH 482	Advanced Biochemistry II	3
Total Hours		6

Minimum Required Grade: C-

Pharmacology

Rule: Complete the following courses

PHAR 421	Medicinal Chem I	3
PHAR 422	Medicinal Chem II	3
PHAR 443	Pharmacol & Toxicol I	4
PHAR 444	Pharmacology & Toxicol II	4
Total Hours		14

Minimum Required Grade: C-

Biology

Rule: Complete the following course

BIOM 400	Medical Microbiology	3
Total Hours		3

Minimum Required Grade: C-

Advanced Electives

Rule: Choose 3 credits from the listed courses

Note: 3 credits maximum of CHMY 492 may be applied toward degree requirements. 3 credits maximum of BIOB 490 may be applied toward degree requirements.

Select 3 credits from the following:		3
BIOB 490	Adv Undergrad Research	
CHMY 373	Phys Chem-Kntcs & Thrmdynmcs	
CHMY 402	Advanced Inorganic Chem Lab	
CHMY 403	Descriptive Inorganic Chem	
CHMY 442	Aquatic Chemistry	
CHMY 465	Organic Spectroscopy	
CHMY 466	FT-NMR Optn for Undrgrd Rsrch	
CHMY 492	Independent Study	
Total Hours		3

Minimum Required Grade: C-

Ethics

Rule: Complete the following course

CHMY 305E	Ethics, Literature and Writing in the Sciences	3
Total Hours		3

Minimum Required Grade: C-