



B.S. Biochemistry: Pharmacy Track Requirements

The Biochemistry major focuses on understanding life at the level of how molecules interact and react, explaining such things as how oxygen is transported in the blood, how food is converted into metabolic energy, and how medicines work within our bodies. The major combines critical thinking and quantitative analysis skills with hands-on laboratory experience using state-of-the-art instrumentation. Students are prepared for graduate programs in Biochemistry and related fields as well as health professional schools including pharmacy, medical, and physician's assistant programs. Students are also prepared for entering directly into the pharmaceutical or biotechnology workforces. Students majoring in Biochemistry choose from one of two tracks: Traditional or Pharmacy, which are differentiated by the math and biology requirements.

Note that all students must achieve 120 undergraduate credits and a minimum 2.0 overall GPA to graduate. The final GPA requirement for Biochemistry: Pharmacy Track is 2.0.

Required Biochemistry: Pharmacy Track Core Courses – 56 credits

Chemistry – 34 credits

CHEM 100 General Chemistry I (4 credits)
CHEM 102 General Chemistry II (4 credits)
CHEM 214 Organic Chemistry I (4 credits)
CHEM 216 Organic Chemistry II (4 credits)
CHEM 230 Analytical Chemistry I (4 credits)
CHEM 310 Biochemistry I (4 credits)
CHEM 312 Biochemistry II (4 credits)
CHEM 314 Physical Chemistry I (4 credits)
CHEM 380 Senior Seminar in Chemistry (2 credits)

Biology – 19 credits

BIOL 104 Principles of Biology (4 credits)
BIOL 106 Intro to Zoology *or* BIOL 108 Intro to Botany (4 credits)
BIOL 120 Anatomy and Physiology I (4 credits)
BIOL 122 Anatomy and Physiology II (4 credits)
BIOL 224 Applied Environmental Microbiology (3 credits)

Mathematics – 3 credits

MATH 140 Applied Statistical Methods *or* MATH 150 Intro to Biostatistics (3 credits)

Biochemistry: Pharmacy Track Major Electives – 4 credits

**Note: The combined credit total toward the major program for CHEM 37X & CHEM 39X may not exceed 2 credits.*

CHEM 300-level (3-4 credits)
CHEM 37X Research in Chemistry (1-2 credits) *
CHEM 39X Chemistry Elective (1-2 credits) *
BIOL 346 Molecular Biology (3 credits)
BIOL 350 Cellular Biology (3 credits)
BIOL 356 Immunology (3 credits)

Directed General Education Courses – 12 credits

These courses are required for the major and may satisfy the general education requirement “Understanding Science and Technology.”

PHYS 100 Physics I – Category C1 (4 credits)

PHYS 102 Physics II (4 credits)

MATH 181 Calculus I or higher – Category C2 (4 credits)

University Electives – 3 to 15 credits

Program Plan Code: BS_BIOC_PHRM

Effective Date: Fall 2020



B.S. Biochemistry: Pharmacy Major Check Sheet

Student Name:

Student ID Number:

This check sheet provides a mechanism for students and advisors to keep track of a student's progress in the program. Please refer to the program requirements for more details regarding options.

Note that all students must achieve 120 undergraduate credits and a minimum 2.0 overall GPA to graduate. The final GPA requirement for Biochemistry Pharmacy track is 2.0.

Required Chemistry Courses – 34 credits

CHEM 100: General Chemistry I	4 credits	Grade:
CHEM 102: General Chemistry II	4 credits	Grade:
CHEM 214: Organic Chemistry I	4 credits	Grade:
CHEM 216: Organic Chemistry II	4 credits	Grade:
CHEM 230: Analytical Chemistry I	4 credits	Grade:
CHEM 310: Biochemistry I	4 credits	Grade:
CHEM 312: Biochemistry II	4 credits	Grade:
CHEM 314: Physical Chemistry I	4 credits	Grade:
CHEM 380: Senior Seminar in Chemistry	2 credits	Grade:
Total Credits	34 total credits	

Required Biology Courses – 19 credits

BIOL 104: Principles of Biology	4 credits	Grade:
BIOL 106: Intro to Zoology	4 credits	Grade:
BIOL 120: Anatomy and Physiology I	4 credits	Grade:
BIOL 122: Anatomy and Physiology II	4 credits	Grade:
BIOL 224: Applied Environmental Microbiology	3 credits	Grade:
Total Credits	19 total credits	

Required Mathematics Course – 3 credits

MATH 140: Applied Statistical Methods or MATH 150: Intro to Biostatistics	3 credits	Grade:
Total Credits	3 total credits	

Pharmacy Track Major Electives – 4 credits

Course 1:	credits	Grade:
Course 2:	credits	Grade:
Total Credits	4 total credits	

Directed General Education Courses

PHYS 100: Physics I (Category C1)	4 credits	Grade:
PHYS 102: Physics II	4 credits	Grade:
MATH 181: Calculus I (Category C2)	4 credits	Grade:

University Electives – 3 to 15 credits

Course 1:	credits	Grade:
Course 2:	credits	Grade:
Course 3:	credits	Grade:
Course 4:	credits	Grade:
Course 5:	credits	Grade:
Total Credits	3-15 total credits	

Summary of Graduation Requirements

Total credits from major courses	60
Total credits from general education program	42-45
Total credits from university electives	3-15
Minimum total credits to graduate	120
Minimum overall GPA	2.0
Minimum GPA in major program	2.0

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B.S. Biochemistry: Pharmacy 8-Semester Planner

Student Name:

Student ID Number:

Each semester listed below provides information including course categories, typical credit hours (CH.), and space to add specific course selections. This planner is a suggested path. Consult with your advisor regarding your unique plans and interests as you make choices about your schedule.

First Semester Plan

Major	CHEM 100	4 CH.	Selection:
Major	BIOL 104	4 CH.	Selection:
Gen Ed	MATH 105, MATH 106, MATH 115, or MATH 181	3-4 CH.	Selection:
Gen Ed	FYSM 100	3 CH.	Selection: FYSM100 -
Total		14-15 CH.	

Second Semester Plan

Major	CHEM 102	4 CH.	Selection:
Major	BIOL 106	4 CH.	Selection:
Gen Ed	MATH 181 or MATH 140 (Category C2)	3-4 CH.	Selection:
Gen Ed	Category A1	3 CH.	Selection:
Total		14-15 CH.	

Third Semester Plan

Major	CHEM 214	4 CH.	Selection:
Major	BIOL 224	3 CH.	Selection:
Gen Ed	PHYS 100 (Category C1)	4 CH.	Selection:
Elective	University Elective	4 CH.	Selection:
Total		15 CH.	

Fourth Semester Plan

Major	CHEM 216	4 CH.	Selection:
Major	PHYS 102	4 CH.	Selection:
Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category A2	3 CH.	Selection:
Total		14 CH.	

Fifth Semester Plan

Major	CHEM 310	4 CH.	Selection:
Major	BIOL 122	4 CH.	Selection:
Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Total		17 CH.	

Sixth Semester Plan

Major	CHEM 312	4 CH.	Selection:
Major	BIOL 122	4 CH.	Selection:
Gen Ed	Category B	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Total		17 CH.	

Seventh Semester Plan

Major	CHEM 314	4 CH.	Selection:
Major	CHEM 230	4 CH.	Selection:
Gen Ed	Category A3	3 CH.	Selection:
Gen Ed	Category D	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Total		17 CH.	

Eighth Semester Plan

Major	CHEM 380	2 CH.	Selection:
Major	CHEM or BIOL Elective	4 CH.	Selection:
Gen Ed	Category A4	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Elective	University Elective	3 CH.	Selection:
Total		15 CH.	

Additional Notes:

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