

CHEMISTRY

CHEMISTRY PROGRAM - BIOCHEMISTRY OPTION

The Biochemistry option is designed to provide the background needed for students seeking entrance into professional medical or dental schools. It will also greatly benefit students seeking technical jobs that require multidisciplinary training in biology and chemistry as well as an abundance of science laboratory skills.

Curriculum

The matrix below is a sample plan for all coursework required for this program.

Freshman

Fall	Credits
ENGL 1013 Composition I ¹	3
SS 1XXX Social Science Courses ¹	3
MATH 2914 Calculus I	4
PHSC 1001 Orientation to Physical Science	1
CHEM 2124 General Chemistry I and CHEM 2120 General Chemistry I Lab	4
Total Hours	15

Spring	Credits
ENGL 1023 Composition II ¹	3
BIOL 1114 Principles of Biology	4
MATH 2924 Calculus II	4
PHSC 1011 Orientation to Physical Science II	1
CHEM 2134 General Chemistry II and CHEM 2130 General Chemistry II Lab	4
Total Hours	16

Sophomore

Fall	Credits
SS 1XXX Social Science Courses ¹	3
PHYS 2014 Algebra-Based Physics I or PHYS 2114 Calculus-Based Physics I	4
COMS 2003 Microcomputer Applications or COMS 2803 Programming in C	3
CHEM 3254 Fundamentals of Organic Chemistry	4
Total Hours	14

Spring	Credits
USHG 1XXX U.S. History and Government ¹	3

Spring	Credits
PHYS 2024 Algebra-Based Physics II or PHYS 2124 Calculus-Based Physics II	4
CHEM 3245 Quantitative Analysis	5
CHEM 3264 Mechanistic Organic Chemistry	4
Total Hours	16

Junior

Fall	Credits
FAH 1XXX Fine Arts and Humanities Courses ¹	3
BIOL 2124 Principles of Zoology	4
CHEM 3301 Chemistry Seminar	1
CHEM 3344 Principles of Biochemistry	4
Elective ²	4
Total Hours	16

Spring	Credits
BIOL 2014 Human Anatomy	4
BIOL 3034 Genetics	4
CHEM 3423 Descriptive Inorganic Chemistry	3
CHEM 3363 Metabolic Biochemistry	3
Total Hours	14

Senior

Fall	Credits
BIOL 3074 Human Physiology or BIOL 3174 Physiological Ecology	4
CHEM 3324 Physical Chemistry I	4
CHEM 4414 Instrumental Analysis	4
CHEM 4951 Undergraduate Research in Chemistry or CHEM 4991 Special Problems in Chemistry	1
CHEM Elective (3000-4000 level)	3
Total Hours	16

Spring	Credits
FAH 1XXX Fine Arts and Humanities Courses ¹	3
SFHS 1XXX Social Sciences/Fine Arts/Humanities/Communication Courses ¹	3
BIOL 4033 Cell Biology	3

Spring	Credits
CHEM 4401 Chemistry Seminar	1
CHEM 4951 Undergraduate Research in Chemistry or CHEM 4991 Special Problems in Chemistry	1
Elective ²	2
Total Hours	13

¹See appropriate alternatives or substitutions in "[General Education Requirements](#)". A specific general education core course does not have to be taken in the semester listed, any other part of the general education core at any time is acceptable as well.

²German, Statistics, and Technical Communications are encouraged. (Electives must include sufficient upper-division courses to result in 40 upper division hours) (upper division = 3000-4000 level).