

# CHEMISTRY MAJOR - PRE-MEDICINE/PRE- PHARMACY (BIOCHEMISTRY) CONCENTRATION (COMPREHENSIVE)

## Requirements

Biochemistry is the study of the chemical processes occurring in living organisms. Education and skill development in this area are an important part of preparation for further studies in the fields of Medicine and Pharmacy as well as preparation for careers or graduate school in Biochemistry and related scientific disciplines. The field of Biochemistry is very interdisciplinary by nature; among other things, a biochemist needs to possess a knowledge of biology, chemistry, physics and mathematics as well as an appreciation for the interrelationships between these disciplines. Chemistry majors choosing this concentration are typically those who are interested in attending medical, veterinary or pharmacy schools or graduate school in biochemistry. Consult with your advisor and the relevant post-graduate programs regarding additional requirements.

### Total - 66 credits

Code	Title	Hours
<b>Core courses for the Pre-Medicine/Pre-Pharmacy (Biochemistry) Concentration (65 credits required):</b>		
CHEM 105	General Chemistry I	5.00
CHEM 106	General Chemistry II	4.00
Recommended:		
CHEM 107	Supplementary Problems in General Chemistry II	1.00
CHEM 305	Quant Analysis Lecture	3.00
CHEM 306	Quantitative Analysis Laboratory	2.00
CHEM 320	Organic Chemistry Lecture I	3.00
CHEM 321	Organic Chem Lecture II	3.00
CHEM 322	Organic Chemistry Lab I	1.00
CHEM 323	Organic Chemistry Lab II	1.00
CHEM 327	Molecular Spectroscopy I	1.00
CHEM 345	Physical Chemistry Lect I	4.00
CHEM 360	Introduction to Biochemistry	3.00
CHEM 462	Advanced Biochemistry	3.00
CHEM 481	Special Topics (Laboratory Techniques in Biochemistry)	1.00
CHEM 497	Senior Seminar In Chemistry	1.00
MATH 240	Calculus and Analytic Geometry I	4.00
MATH 241	Calculus and Analytic Geometry II	4.00
PHYS 201	Calculus-Based Physics I <sup>1</sup>	5.00
PHYS 202	Calculus-Based Physics II <sup>1</sup>	5.00
BIOL 330	Genetics	4.00
BIOL 355	Microbiology	3.00
BIOL 440	Cell Biology	4.00

### Capstone Course

Select one of the following:		1.00
CHEM 491	Senior Research	
CHEM 496	Senior Paper	
CHEM 498	Internship	
<b>Total Hours</b>		<b>66.00</b>

<sup>1</sup> PHYS 107 Algebra-Based Physics I & PHYS 205 Calculus Applications in Introductory Physics I together substitute for PHYS 201 Calculus-Based Physics I. PHYS 108 Algebra-Based Physics II and PHYS 206 Calculus Applications in Introductory Physics II together substitute for PHYS 202 Calculus-Based Physics II. Special department permission required to enroll in PHYS 205 Calculus Applications in Introductory Physics I or PHYS 206 Calculus Applications in Introductory Physics II.

Students who also choose BIOL 340 Ecology and Evolutionary Biology will complete a minor in biology. With additional biology coursework, students may earn a second major in Biology.

Students choosing the Pre-Medicine/Pre-Pharmacy (Biochemistry) Concentration will have completed the topics recommended for a biochemistry major by the American Society of Biochemistry and Molecular Biology.