



BIOCHEMISTRY MAJOR (Biological Emphasis)

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The Departments of Biology and Chemistry offer an interdisciplinary major program of study leading to a Bachelor of Arts in Biochemistry. The major program is structured into two tracks, biological emphasis and chemical emphasis, to allow the student to pursue a more advanced study of biochemistry to fulfill their particular interests and professional goals. Both tracks require introductory biology and chemistry courses with emphasis on fundamental concepts and give students a clear insight into the underlying biological and chemical principles. The Biodiversity, Biological Processes and General Chemistry courses fulfill the general degree requirements for a course in Laboratory science as well as serving as foundation courses for biochemistry students.

Students completing a Biology or Chemistry Major may not also receive a Biochemistry Major. Students majoring in Biochemistry cannot obtain a second major or a minor in Biology or Chemistry, or a minor in Health Professions.

The Departments strongly recommend that students majoring in Biochemistry (Biological Emphasis) take Calculus through Calculus II (MAT 124 and MAT 214) and Physics I and II (PHY 201 and PHY 212). Any student who elects to take BIO 404, Biochemistry, must have successfully completed both semesters of Organic Chemistry or be currently taking CHM 324/325. No more than four hours of BIO 398 Independent Study Research Projects, may be counted toward the major. Students must earn a letter grade of C- or better and attain a 2.0 average or higher in all courses needed to satisfy major requirements.

At least 50% of all BIO and CHM hours needed to satisfy the major (22-24) must be Westminster courses.

If any substitutions of waivers of requirements are allowed, please list below and initial.

Course #	Title of Course	Hours Completed	Semester Completed	Grade

MAJOR: BIOCHEMISTRY (BIOLOGICAL)

Student's Last Name		First Name	Middle Initial	
Advisor		Date Major Declared		
Course #	Title of Course	Hours Required	Semester Completed	Grade
	Biology Required Courses (12 hrs.)			
BIO 124/125	Biodiversity	4		
<u>or</u> BIO 100	General Biology I	4		
BIO 114/115	Biological Processes	4		
BIO 404	Biochemistry 4 (CHM 314/315 prereq, 324/325 coreq)	4		
	Chemistry Required Courses (16 hrs.)			
CHM 114/115	General Chemistry I	4		
CHM 124/125	General Chemistry II	4		
CHM 314/315	Organic Chemistry I	4		
CHM 324/325	Organic Chemistry II	4		
	Biology Electives (Three of the following- 9-12 hrs.):			
BIO 300	Cell Structure and Function (non-lab)	3		
BIO 300	Ecotoxicology with accompanying lab	4		
BIO 301	Genetics	4		
BIO 325	Molecular Cell Biology	4		
BIO 330	Virology (BIO 301 recommended)	3		
BIO 370	Physiology (BIO 203 or 322 prereq)	4		
BIO 372	Developmental Biology (BIO 301 prereq)	4		
BIO 398	Independent Research Projects in Biochemistry	3-4		
BIO 403	Microbiology (BIO 114/115 & 124/125 and CHM 114/115 prereqs)	4		
	Chemistry Electives (Two of the following- 6-8 hrs.):			
CHM 300	Environmental Chemistry (lab required)	4		
CHM 304	Inorganic Chemistry	3		
CHM 334/335	Analytical Chemistry I (lab required)	4		
CHM 344/345	Analytical Chemistry II (lab required)	4		
CHM 404	Physical Chemistry for the Life Sciences	3		
<u>or</u> CHM 424/425	Physical Chemistry 1 (lab required)	4		
CHM 410	Advanced Topics in Chemistry	3		
CHM 434/435	Physical Chemistry II (lab required)	4		
	Other Required Course (3-5 hours):			
MAT 114	Elementary Statistics	3		
<u>or</u> Mat 124	Calculus I	5		
	Total hours for Major	46-53		