Biochemistry (Chemical Emphasis) Major

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The Departments of Biology and Environmental Science 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 minor in Biology or Chemistry.

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 C- or better in all courses needed to satisfy major requirements.

The Chemical Emphasis track of the major focuses more strongly on the chemical, physical and mathematical applications of biochemistry. Students are required to complete fundamental core courses in biology, chemistry, mathematics, and physics. In addition to the core courses, students are also required to complete two biology electives and one chemistry elective.

ACADEMIC REQUIREMENTS SUMMARY SHEET **ACADEMIC YEAR 2025-2026**

Biochemistry Major (Chemical Emphasis)

Student's Last Name First Name Middle Initial

Advisor Date Major Declared

Course Code	Course Title	Hours	Semester	Grade
Biology Required Courses (12 hours)				
BIO 114/115	Biological Processes	4		
BIO 124/125	Biodiversity	4		
BIO 404	Biochemistry (CHM 314/315 prereq 324/325 co-prereq)	4		
Chemistry Courses (27-28 hours)				
Required Courses (24 hours)				
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		
CHM 334/335	Analytical Chemistry I	4		
Choose one course from the following (3-4 hours)				
CHM 404	Biophysical Chemistry	3		
CHM 424/425	Physical Chemistry I	4		
Required Physics Courses (8 hours)				
PHY 201	Physics I	4		
PHY 212	Physics II	4		
Mathematics Required Courses (9 hours)				
MAT 124	Calculus I	5		
MAT 214	Calculus II	4		
Biology Elective Courses (Choose two of the following: 7-8 hours)				
BIO 225	Genetics	4		
BIO 325	Molecular Cell Biology	4		
BIO 330	Virology (BIO 225 recommended)	3		
BIO 420	Physiology (BIO 302 or 322 prerequisite)	4		
BIO 372	Developmental Biology (BIO 225 prerequisite)	3		
BIO 303	Microbiology	4		
Chemistry Electives (Choose one of the following: 3-4 hours)				
CHM 304	Inorganic Chemistry	3		
CHM 344/345	Analytical Chemistry II	4		
CHM 410	Advanced Topics in Chemistry	3		
CHM 434/435	Physical Chemistry	4		
	Total Hours	**60-65**		