

B.S. IN BIOCHEMISTRY

College of the Sciences and Mathematics

Curriculum

Code	Title	Credits
GENERAL EDUCATION REQUIREMENTS (https://catalog.wcupa.edu/undergraduate/general-education-requirements/)		
Academic Foundations		
	First Year Experience requirement	4
	English Composition requirement	6-7
	Mathematics requirement ³	3-4
	Interdisciplinary requirement	3
	Diverse Communities requirement	3
	Ethics requirement	3
Distributed Disciplinary Foundations		
	Science requirement ⁴	6-8
	Behavioral & Social Science requirement	6
	Humanities requirement	6
	Arts requirement	3
ADDITIONAL BACCALAUREATE REQUIREMENTS (https://catalog.wcupa.edu/undergraduate/general-education-requirements/)		
University Requirements		
	Writing Emphasis requirement	9
	Speaking Emphasis requirement	9
Degree Requirements		
	Capstone requirement	1-15
MAJOR REQUIREMENTS		
Core Courses ¹		
CHE 103	General Chemistry I	3
CHE 104	General Chemistry II	3
CHE 231	Organic Chemistry I	4
CHE 232	Organic Chemistry II	3
CHE 321	Analytical Chemistry I	3
CHE 418	Chemical Information	1
CHE 476	Biochemistry I	3
CRL 103	General Chemistry I Lab	1
CRL 104	General Chemistry II Lab	1
CRL 231	Organic Chemistry I Lab	2
CRL 321	Analytical Chemistry I Lab	2
PHY 170	Physics I	4
PHY 180	Physics II	4
BIO 110	General Biology I	4
MAT 161	Calculus I	4
MAT 162	Calculus II	4
Other Required Courses ¹		
CHE 341	Physical Chemistry I	4
CHE 342	Physical Chemistry II	3
CHE 411	Advanced Inorganic Chemistry	3
CHE 424	Advanced Analytical Chemistry	3
CHE 477	Biochemistry II	3
CRL 232	Organic Chemistry II Lab	2
CRL 341	Physical Chemistry I Lab	2
CRL 342	Physical Chemistry II Lab	2
CRL 411	Inorganic Syntheses Lab	2
CRL 424	Analytical Chemistry II Lab	2

CRL 476	Biochemistry I Lab	2
CRL 477	Biochemistry II Lab	2

Lab safety exam must be passed before application for graduation. See advisor for more information

Select one of the following: 3-4

BIO 210	Genetics	
BIO 211	Cell Biology	
BIO 214	General Microbiology	

Biochemistry Elective

Students must select one course from the following: 3

CHE 333	Advanced Organic Chemistry	
CHE 410	Advanced Independent Study or Research	
CHE 479	Chemical Toxicology	
CHE 535	Pharmaceutical Chemistry	

Capstone Requirement

CHE 491 Seminar in Chemistry^{1,2} 1

Total Minimum Required Credits 120

¹ A grade of C- or higher is necessary in all required science and mathematics courses.

² This course fulfills the Capstone requirement.

³ MAT 161 fulfills the Mathematics General Education requirement.

⁴ BIO 110 and PHY 170 fulfill the Science Distributive General Education requirements.

Sample Course Plan

To track their individual degree progress, students are advised to access their Degree Progress Report (DPR) via myWCU regularly. For more information, visit wcupa.edu/DegreeProgressReport (<http://wcupa.edu/degreeprogressreport/>).

The following is a sample suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

Course	Title	Credits
Year One		
Fall		
CHE 103 & CRL 103	General Chemistry I and General Chemistry I Lab	4
MAT 161	Calculus I	4
BIO 110	General Biology I	4
FYE 100X	First Year Experience	4
Credits		16
Spring		
CHE 104 & CRL 104	General Chemistry II and General Chemistry II Lab	4
MAT 162	Calculus II	4
PHI 180	Introduction to Ethics	3
WRT 120	Effective Writing I	3
BIO XXX	Biology Elective ¹	3
Credits		17
Year Two		
Fall		
CHE 231 & CRL 231	Organic Chemistry I and Organic Chemistry I Lab	6
CHE 321 & CRL 321	Analytical Chemistry I and Analytical Chemistry I Lab	5
PHY 170	Physics I	4

Department Safety Exam		
Credits		15
Spring		
CHE 232	Organic Chemistry II	5
& CRL 232	and Organic Chemistry II Lab	
PHY 180	Physics II	4
WRT 2XX	200-Level WRT Course	3
Student Elective		3
Credits		15
Year Three		
Fall		
CHE 341	Physical Chemistry I	6
& CRL 341	and Physical Chemistry I Lab	
CHE 418	Chemical Information	1
CHE 476	Biochemistry I	5
& CRL 476	and Biochemistry I Lab	
Behavioral & Social Science Gen Ed		3
Credits		15
Spring		
CHE 342	Physical Chemistry II	5
& CRL 342	and Physical Chemistry II Lab	
CHE 477	Biochemistry II	5
& CRL 477	and Biochemistry II Lab	
Humanities Gen Ed		3
Arts Gen Ed		3
Credits		16
Year Four		
Fall		
CHE 491	Seminar in Chemistry	1
CHE XXX	Biochemistry Elective ²	2
Behavioral & Social Science Gen Ed		3
Interdisciplinary Gen Ed		3
Student Elective		4
Credits		13
Spring		
CHE 411	Advanced Inorganic Chemistry	5
& CRL 411	and Inorganic Syntheses Lab	
CHE 424	Advanced Analytical Chemistry	5
& CRL 424	and Analytical Chemistry II Lab	
Student Elective		3
Credits		13
Total Credits		120

¹ This course is a biochemistry program elective in the Biology Department. Each student must complete one elective from the following selected courses: BIO 210, BIO 211, or BIO 214.

² This course is a biochemistry program elective in the Chemistry Department. Each student must complete one elective from the following selected courses: CHE 333, CHE 410, CHE 479, or CRL 477.