MAJOR IN BIOCHEMISTRY, PRE-PHARMACY CONCENTRATION

If students successfully complete an additional 1-credit course, Responsible Conduct in Biochemical Research BC 360, they can state on their resume that they graduated from an "American Society for Biochemistry and Molecular Biology (ASBMB) accredited program." Further, students also have the option of taking a 1-hour ASBMB exam during the spring semester of their senior year. Student who pass the exam will additionally receive degree certification from ASBMB.

Requirements
Effective Fall 2022

A minimum grade of C (2.000) must be earned for BC 493 and all biochemistry (BC) and LIFE subject code lecture and laboratory courses at or above the 200-level required in the biochemistry major.

Freshman

		AUCC	Credits
BC 192	Biochemistry Freshman Seminar		2
CHEM 111	General Chemistry I (GT-SC2)	3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)	3A	1
CHEM 113	General Chemistry II		3
CHEM 114	General Chemistry Lab II		1
CO 150	College Composition (GT-CO2)	1A	3
LIFE 102	Attributes of Living Systems (GT-SC1)	3A	4
LIFE 201B	Introductory Genetics: Molecular/Immunological/Developmental (GT-SC2)	3A	3
LIFE 203	Introductory Genetics Laboratory		2
Select one group from the following:			8
Group A:			
MATH 155	Calculus for Biological Scientists I (GT-MA1)	1B	
MATH 255	Calculus for Biological Scientists II	1B	
Group B:			
MATH 160	Calculus for Physical Scientists I (GT-MA1)	1B	
MATH 161	Calculus for Physical Scientists II (GT-MA1)	1B	
	Total Credits		**31**

Sophomore

CHEM 341	Modern Organic Chemistry I		3
CHEM 343	Modern Organic Chemistry II		3
CHEM 344	Modern Organic Chemistry Laboratory		2
ECON 202	Principles of Microeconomics (GT-SS1)	3C	3
LIFE 210	Introductory Eukaryotic Cell Biology		3
LIFE 212	Introductory Cell Biology Laboratory		2
SPCM 200	Public Speaking		3
Select one course from the following:			4
BMS 300	Principles of Human Physiology		
BMS 360	Fundamentals of Physiology		
Select one course from the following:			5
PH 121	General Physics I (GT-SC1)	3A	
PH 141	Physics for Scientists and Engineers I (GT-SC1)	3A	
	Total Credits		**28**

Junior

BC 401	Comprehensive Biochemistry I	4A	3
BC 403	Comprehensive Biochemistry II	4B	3

BMS 301	Human Gross Anatomy		5
BMS 302	Laboratory in Principles of Physiology		2
MIP 300	General Microbiology		3
MIP 302	General Microbiology Laboratory		2
Select one course from the following:			5
PH 122	General Physics II (GT-SC1)	3A	
PH 142	Physics for Scientists and Engineers II (GT-SC1)	3A	
Select one course from the following:			3
STAT 301	Introduction to Applied Statistical Methods		
STAT 307	Introduction to Biostatistics		
STAT 315	Intro to Theory and Practice of Statistics		
Advanced Writing (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)		2	3
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)		1C	3
	Total Credits		**32**

Senior

BC 404	Comprehensive Biochemistry Laboratory	4B	2
BC 411	Physical Biochemistry		4
BC 493	Senior Seminar	4A,4C	1
Select one course from the following:			3
BC 463	Molecular Genetics		
BC 465	Molecular Regulation of Cell Function		
Select one course from the following:			3
BC 499A	Thesis: Laboratory Research-Based	4C	
BC 499D	Thesis: Literature-based in Pre-Pharmacy	4C	
Foundations and Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#foundations-perspectives)[1]		3B, 3D	9
Electives[2]			7
	Total Credits		**29**
	Program Total Credits:		**120**

[1] Select from the list of courses in categories 3B, 3D (six credits [two courses] must come from 3B; one course from category 3D) in the AUCC. Only 3 of the 6 credits required for Arts and Humanities may come from intermediate (L*** 200 and L*** 201) foreign language courses. Students should plan on taking ECON 202 as the AUCC Cat 3C requirement.

[2] Select enough elective credits to bring the program total to a minimum of 120 credits, of which at least 42 must be upper-division (300- to 400-level).