MAJOR IN BIOCHEMISTRY, HEALTH AND MEDICAL SCIENCES CONCENTRATION

Students successfully completing the program 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
LIFE 210	Introductory Eukaryotic Cell Biology		3
LIFE 212	Introductory Cell Biology Laboratory		2
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	
AUCC Category 3 courses (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#Foundations-Perspectives)[1]		3B-3D	6
Elective			3
	Total Credits		**31**
Junior			
BC 360	Responsible Conduct in Biochemical Research		1

BC 401	Comprehensive Biochemistry I	4A	3
BC 403	Comprehensive Biochemistry II	4B	3
Select a minimum of 2-credits from the following:			2-3
BC 406A	Investigative Biochemistry: Protein Biochemistry		
BC 475	Mentored Research		
BC 487A	Internship		
BC 495	Independent Study		
BC 496	Group Study		
Select one course from the following:			4-5
BMS 301	Human Gross Anatomy		
BMS 305	Domestic Animal Gross Anatomy		
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
Elective			2-4
	Total Credits		**31**

Senior

BC 404	Comprehensive Biochemistry Laboratory	4B	2
BC 411	Physical Biochemistry		4
BC 463	Molecular Genetics		3
BC 465	Molecular Regulation of Cell Function		3
BC 467	Biochemistry of Disease		3
BC 493	Senior Seminar	4A,4C	1
Select one course from the following:			3
BC 499A	Thesis: Laboratory Research-Based	4C	
BC 499C	Thesis: Literature-based in Health and Med Sci	4C	
AUCC Category 3 courses (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#Foundations-Perspectives)[1]		3B-3D	6
Elective[2]			2
	Total Credits		**27**
	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 each from categories 3C and 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.

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).