MAJOR IN BIOMEDICAL SCIENCES, ANATOMY AND PHYSIOLOGY CONCENTRATION

Requirements
Effective Fall 2023

Freshman

		AUCC	Credits
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
VMBS 100	Introduction to Biomedical Sciences Major		2
Select one from the following:			3
BMS 260[1]	Biomedical Sciences		
Concentration Elective (See list below)[1]			
Select one course from the following:			4
MATH 155	Calculus for Biological Scientists I (GT-MA1)	1B	
MATH 160	Calculus for Physical Scientists I (GT-MA1)	1B	
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)		3B	3
Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion)		1C	3
	Total Credits		**31**

Sophomore

Select one course from the following:			4
BMS 300	Principles of Human Physiology		
BMS 360	Fundamentals of Physiology		
BMS 302	Laboratory in Principles of Physiology		2
LIFE 210	Introductory Eukaryotic Cell Biology		3
LIFE 212	Introductory Cell Biology Laboratory		2
Select one course from the following:			3-4
BZ 350	Molecular and General Genetics		
LIFE 201B	Introductory Genetics: Molecular/Immunological/Developmental (GT-SC2)	3A	
SOCR 330	Principles of Genetics		
Select one group from the following:			8
Group A			
CHEM 245	Fundamentals of Organic Chemistry		
CHEM 246	Fundamentals of Organic Chemistry Laboratory		
Concentration Elective (see list below)			
Group B			
CHEM 341	Modern Organic Chemistry I		
CHEM 343[1]	Modern Organic Chemistry II		

CHEM 344	Modern Organic Chemistry Laboratory		
Select one course from the following:			3
STAT 301	Introduction to Applied Statistical Methods		
STAT 307	Introduction to Biostatistics		
Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)		3B	3
Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)		3D	3
	Total Credits		**31-32**
Junior			
BC 351	Principles of Biochemistry		4
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	
Select one course from the following:			4-5
BMS 301	Human Gross Anatomy		
BMS 305	Domestic Animal Gross Anatomy		
BMS 330	Microscopic Anatomy		
Concentration Electives (See list below)[1]			7
Electives			3
Advanced Writing (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)		2	3
Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)		3C	3
	Total Credits		**29-30**
Senior			
MIP 300	General Microbiology		3
MIP 302	General Microbiology Laboratory		2
Select one group from the following:			5
Group A:			
BMS 345	Functional Neuroanatomy	4B	
BMS 400	Neuroanatomy Through Clinical Case Studies	4A,4C	
Group B:			
BMS 420	Cardiopulmonary Physiology	4B	
BMS 421	Perspectives in Cardiopulmonary Diseases	4A,4C	
Group C:			
BMS 460	Essentials of Pathophysiology	4B	
BMS 461	Pathophysiology Perspectives	4A,4C	
Concentration Electives (See list below)[1]			6
Electives[2]			11-13
	Total Credits		**27-29**
	Program Total Credits:		**120**

Concentration Electives – Select a minimum of 19 total credits

- BMS 260 may count as a Concentration Elective. Freshmen must take BMS 260.
- BMS 330 may count as a Concentration Elective if either BMS 301 or BMS 305 were taken to satisfy the anatomy requirement in the Junior year.
- BMS 345, BMS 420, and BMS 460 may count as Concentration Electives if not taken to satisfy All-University Core Curriculum (AUCC) Category 4 in the major.
- BMS 384 may be taken for a maximum of 3 credits.
- A maximum total of 3 credits earned in BMS 487, BMS 495, and BMS 498 may count toward the Concentration Electives. Additional credits earned in these courses will count as free elective credits.

- Only one of the following courses may count as a Concentration Elective: BMS 496A, BMS 496B, BMS 496C, BMS 496D. Additional credits earned in these courses will count as free elective credits.
- CHEM 343 may count as a Concentration Elective for students who select organic chemistry Group B in the Sophomore year.

Code	Title	Credits
BC 463	Molecular Genetics	3
BC 465	Molecular Regulation of Cell Function	3
BMS 192	First Year Seminar in Biomedical Sciences	1
BMS 260	Biomedical Sciences [1]	3
BMS 325	Cellular Neurobiology	3
BMS 330	Microscopic Anatomy [1]	4
BMS 345	Functional Neuroanatomy [1]	4
BMS 384	Supervised College Teaching [1]	1-3
BMS 401	Laboratory Research in Biomedical Sciences	4
BMS 405	Nerve and Muscle-Toxins, Trauma and Disease	3
BMS 409	Human and Animal Reproductive Biology	3
BMS 420	Cardiopulmonary Physiology [1]	3
BMS 425	Introduction to Systems Neurobiology	3
BMS 430	Endocrinology	3
BMS 450	Pharmacology	3
BMS 460	Essentials of Pathophysiology [1]	3
A maximum of 3 credits may selected from the following:		
BMS 487	Internship [1]	
BMS 495	Independent Study [1]	
BMS 498	Research [1]	
A maximum of one course may selected from the following:		
BMS 496A	Honors: Human Gross Anatomy [1]	
BMS 496B	Honors: Physiology Lab [1]	
BMS 496C	Honors: Physiology Case Studies [1]	
BMS 496D	Honors: Animal Gross Anatomy [1]	
BMS 500	Mammalian Physiology I	4
BMS 501	Mammalian Physiology II	4
BMS 521	Comparative Reproductive Physiology	3
BMS 531	Domestic Animal Dissection	3
BMS 575	Human Anatomy Dissection	4
BZ 220	Introduction to Evolution	3
CHEM 343	Modern Organic Chemistry II [1]	3
MIP 342	Immunology	4
MIP 351	Medical Bacteriology	3
PH 122	General Physics II (GT-SC1)	5

[1] See Concentration Elective notes directly above the course list.

[2] Select enough free electives at student's discretion to complete degree program of 120 credits. Enough upper division (300- and 400-level) credits must be taken to bring total number of upper division credits to 42.