MAJOR IN BIOMEDICAL SCIENCES, ANATOMY AND PHYSIOLOGY CONCENTRATION

Requirements
Effective Spring 2024

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.
- A maximum total of 4 credits earned in ANEQ 320, ERHS 220, ERHS 332, ERHS 340, ERHS 430, FSHN 350, HES 403, MIP 315, MIP 351, OT 215, and PHIL 322 may count toward the Concentration Electives. Additional credits earned in these courses will count as free elective credits.

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 304	Applied Food and Fiber Animal Anatomy	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
PH 122	General Physics II (GT-SC1)	5
A maximum of four credits may selected from the following:		
ANEQ 320	Principles of Animal Nutrition [1]	
ERHS 220	Environmental Health [1]	
ERHS 332	Principles of Epidemiology [1]	
ERHS 340	Cancer Biology, Medicine, and Society [1]	
ERHS 430	Human Disease and the Environment [1]	
FSHN 350	Human Nutrition [1]	
HES 403	Physiology of Exercise [1]	
MIP 315	Pathology of Human and Animal Disease [1]	
MIP 351	Medical Bacteriology [1]	
OT 215	Medical Terminology [1]	
PHIL 322	Biomedical Ethics [1]	

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.