MAJOR IN BIOMEDICAL SCIENCES

Major Completion Map

Distinctive Requirements for Degree Program:
To Declare Major: competitive entry controls required and capped enrollment in place. Please contact Director of Student Success in the CVMBS Student Success Center for more information.

To Prepare for First Semester: The curriculum for the major assumes students enter college prepared to take calculus. Entering students who are not prepared to take calculus will need to fulfill pre-calculus requirements in the first semester. Those pre-calculus requirements are listed as benchmark courses in Freshman Semester 1 below. LIFE 102 requires high school chemistry as a prerequisite; CHEM 111 requires Algebra II as a prerequisite (this prerequisite is met by having Algebra II by test credit, transfer credit, or placement out of MATH 117 and MATH 118 on Math Placement Exam.

Freshman

Semester 1		**Critical**	**Recommended**	**AUCC**	**Credits**
Students will be required to take either MATH 155 or MATH 160 in Freshman semester 2. Students who intend to take MATH 160 will need to take MATH 126 in addition to MATH 124 and MATH 125					
CHEM 111	General Chemistry I (GT-SC2)	X		3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)	X		3A	1
CO 150	College Composition (GT-CO2)	X		1A	3
LIFE 102	Attributes of Living Systems (GT-SC1)	X		3A	4
VMBS 100	Introduction to Biomedical Sciences Major	X			2
MATH 124, MATH 125, and MATH 126 must be completed by the end of Semester 1, if necessary.		X			
	Total Credits				**14**
Semester 2		**Critical**	**Recommended**	**AUCC**	**Credits**
CHEM 113	General Chemistry II	X			3
CHEM 114	General Chemistry Lab II	X			1
Select one course from the following:		X			4
MATH 155	Calculus for Biological Scientists I (GT-MA1)			1B	
MATH 160	Calculus for Physical Scientists I (GT-MA1)			1B	
Select one course from the following:		X			3
BMS 260	Biomedical Sciences				
Biomedical Sciences Elective (see list on Requirements Tab):					
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			X	1C	3
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)			X	3B	3
	Total Credits				**17**

Sophomore

Semester 3		**Critical**	**Recommended**	**AUCC**	**Credits**
LIFE 210	Introductory Eukaryotic Cell Biology	X			3
LIFE 212	Introductory Cell Biology Laboratory	X			2
Select one group from the following:		X			3-5
Group A					
CHEM 245	Fundamentals of Organic Chemistry				
CHEM 246	Fundamentals of Organic Chemistry Laboratory				
Group B					
CHEM 341	Modern Organic Chemistry I				
Select one course from the following:		X			3
STAT 301	Introduction to Applied Statistical Methods				
STAT 307	Introduction to Biostatistics				

Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)			X	3B	3
	Total Credits				**14-16**
Junior					
Semester 4		**Critical**	**Recommended**	**AUCC**	**Credits**
BMS 302	Laboratory in Principles of Physiology	X			2
Select one course from the following:		X			4
BMS 300	Principles of Human Physiology				
BMS 360	Fundamentals of Physiology				
Select the same group (A or B) as selected in semester 3:		X			3-5
Group A					
Biomedical Sciences Elective (see list below)					
Group B					
CHEM 343	Modern Organic Chemistry II				
CHEM 344	Modern Organic Chemistry Laboratory				
Select one course from the following:		X			3-4
BZ 350	Molecular and General Genetics				
LIFE 201B	Introductory Genetics: Molecular/Immunological/ Developmental (GT-SC2)			3A	
SOCR 330	Principles of Genetics				
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			X	3D	3
CHEM 341 must be completed by the end of Semester 4.		X			
	Total Credits				**15-18**
Junior					
Semester 5		**Critical**	**Recommended**	**AUCC**	**Credits**
BC 351	Principles of Biochemistry	X			4
Select one course from the following:		X			5
PH 121	General Physics I (GT-SC1)			3A	
PH 141	Physics for Scientists and Engineers I (GT-SC1)			3A	
Biomedical Sciences Electives (See list on Requirements Tab):					3
Advanced Writing (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)			X	2	3
	Total Credits				**15**
Semester 6		**Critical**	**Recommended**	**AUCC**	**Credits**
Select one course from the following:		X			4-5
BMS 301	Human Gross Anatomy				
BMS 305	Domestic Animal Gross Anatomy				
BMS 330	Microscopic Anatomy				
Biomedical Sciences Electives (See list on Requirements Tab):		X			4
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)			X	3C	3
Elective			X		3
	Total Credits				**14-15**
Senior					
Semester 7		**Critical**	**Recommended**	**AUCC**	**Credits**
Select one group from the following:		X			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	
Biomedical Sciences Electives (See list on Requirements Tab):		X			3
Electives			X		7
	Total Credits				**15**
Semester 8		**Critical**	**Recommended**	**AUCC**	**Credits**
MIP 300	General Microbiology	X			3
MIP 302	General Microbiology Laboratory	X			2
Biomedical Sciences Electives (See list on Requirements Tab):		X			3
Electives		X			4-6
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
	Total Credits				**12-14**
	Program Total Credits:				**120**