

# MAJOR IN BIOMEDICAL SCIENCES, ANATOMY AND PHYSIOLOGY CONCENTRATION

## 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 anatomy and physiology concentration 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

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

		Critical	Recommended	AUCC	Credits
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				2

MATH 124, MATH 125, and MATH 126 must be completed by the end of Semester 1, if necessary.

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:					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:					3
BMS 260	Biomedical Sciences Concentration Elective (see list on Requirements Tab):	X			
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )					3
Diversity, Equity, and Inclusion ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion</a> )					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				2
Select one group from the following:					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:					3
STAT 301	Introduction to Applied Statistical Methods				
STAT 307	Introduction to Biostatistics				

Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )			3B	3
<b>Total Credits</b>				<b>14-16</b>
<b>Semester 4</b>			<b>Critical</b>	<b>Recommended</b>
Select one course from the following:			X	AUCC
BMS 300	Principles of Human Physiology			Credits
BMS 360	Fundamentals of Physiology			4
BMS 302	Laboratory in Principles of Physiology			2
Select the same group (A or B) as selected in semester 3:				3-5
Group A				
Concentration Elective (see list below)				
Group B				
CHEM 343	Modern Organic Chemistry II			
CHEM 344	Modern Organic Chemistry Laboratory			
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			
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )				3D
CHEM 341 must be completed by the end of Semester 4.			X	
<b>Total Credits</b>				<b>15-18</b>
<b>Junior</b>				
<b>Semester 5</b>			<b>Critical</b>	<b>Recommended</b>
BC 351	Principles of Biochemistry			AUCC
Select one course from the following:				Credits
PH 121	General Physics I (GT-SC1)	X		4
PH 141	Physics for Scientists and Engineers I (GT-SC1)			3A
Concentration Electives (See list on Requirements Tab):				3A
Advanced Writing ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing</a> )				2
<b>Total Credits</b>				<b>15</b>
<b>Semester 6</b>			<b>Critical</b>	<b>Recommended</b>
Select one course from the following:				AUCC
BMS 301	Human Gross Anatomy			Credits
BMS 305	Domestic Animal Gross Anatomy			4-5
BMS 330	Microscopic Anatomy			
Concentration Electives (See list on Requirements Tab):				4
Social and Behavioral Sciences ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences</a> )			X	3C
Electives				3
<b>Total Credits</b>				<b>14-15</b>
<b>Senior</b>				
<b>Semester 7</b>			<b>Critical</b>	<b>Recommended</b>
Select one group from the following:				AUCC
Group A:				Credits
BMS 345	Functional Neuroanatomy			5
BMS 400	Neuroanatomy Through Clinical Case Studies			4B
Group B:				4A,4C
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 on Requirements Tab):					3
Electives					7
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<b>Total Credits</b>					<b>15</b>
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
MIP 300	General Microbiology	X			3
MIP 302	General Microbiology Laboratory	X			2
Concentration Electives (See list on Requirements Tab):					3
Electives					4-6
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.					X
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<b>Total Credits</b>					<b>12-14</b>
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<b>Program Total Credits:</b>					<b>120</b>