

# MAJOR IN BIOLOGICAL SCIENCE, BOTANY CONCENTRATION

## Major Completion Map

### Distinctive Requirements for Degree Program:

TO PREPARE FOR FIRST SEMESTER: The curriculum for the Biological Sciences major - Botany 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. Talk to your advisor. 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). C or better in all biological, physical science, and mathematical courses used to meet requirements for the major. Term 4 may have to be adjusted if the student chooses 2 semesters of Organic Chemistry, do not attempt more than three science and math courses per term. It is recommended that you do not take BZ 310 and BZ 350 together.

### Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)	X		1A	3
LIFE 102	Attributes of Living Systems (GT-SC1)	X		3A	4
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	
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> )			X	3B	3
<b>Total Credits</b>					<b>14</b>

Semester 2		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
LIFE 103	Biology of Organisms-Animals and Plants (GT-SC1)	X		3A	4
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> )			X	3B	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> )			X	1C	3
CO 150 must be completed by the end of Semester 2.		X			
MATH 124, MATH 125 may be necessary for some students to fulfill pre-calculus requirements.			X		
<b>Total Credits</b>					<b>15</b>

### Sophomore

Semester 3		Critical	Recommended	AUCC	Credits
BZ 220	Introduction to Evolution	X			3
CHEM 113	General Chemistry II	X			3
CHEM 114	General Chemistry Lab II	X			1
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> )			X	3D	3
Electives			X		6
MATH 155 or MATH 160 must be completed by the end of Semester 3.		X			
<b>Total Credits</b>					<b>16</b>

Semester 4		Critical	Recommended	AUCC	Credits
CHEM 245	Fundamentals of Organic Chemistry	X			4
CHEM 246	Fundamentals of Organic Chemistry Laboratory	X			1
Select one course from the following:		X			3
STAT 301	Introduction to Applied Statistical Methods				
STAT 307	Introduction to Biostatistics				
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	3
Elective			X		3
<b>Total Credits</b>					<b>14</b>

<i>Junior</i>					
<b>Semester 5</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
Select one course from the following:		X			3-4
BC 351	Principles of Biochemistry				
BC 401	Comprehensive Biochemistry I				
BZ 331	Developmental Plant Anatomy	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	
Upper Division Botany Concentration Elective (see list on Concentration Requirements tab)			X		3
STAT 301 or STAT 307 must be completed by the end of Semester 5.		X			
<b>Total Credits</b>					<b>15-16</b>
<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
To complete BC 401 series option:					0-3
BC 403	Comprehensive Biochemistry II				
BZ 325	Plant Systematics				4
BZ 440	Plant Physiology				3
BZ 441	Plant Physiology Laboratory				2
Select one course from the following:					5
PH 122	General Physics II (GT-SC1)		X	3A	
PH 142	Physics for Scientists and Engineers II (GT-SC1)		X	3A	
<b>Total Credits</b>					<b>15</b>
<i>Senior</i>					
<b>Semester 7</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BZ 310	Cell Biology	X			4
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> )			X	2	3
Upper Division Botany Concentration Electives (see list on Concentration Requirements tab)			X		6
Elective					3
<b>Total Credits</b>					<b>16</b>
<b>Semester 8</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
BZ 350	Molecular and General Genetics	X		4A,4B	4
BZ 450	Plant Ecology	X		4C	4
Upper Division Botany Concentration Electives (see list on Concentration Requirements tab)		X			3
Elective			X		2-4
The benchmark courses for the 8th semester are the remaining courses in the entire program of study.		X			
<b>Total Credits</b>					<b>13-15</b>
<b>Program Total Credits:</b>					<b>120</b>