

MAJOR IN BIOLOGICAL SCIENCE, BOTANY CONCENTRATION

major, as well as all Upper Division Botany Concentration Electives. This applies to courses taken as substitutions for meeting these requirements.

Requirements Effective Fall 2025

To be qualified for graduation, students must have a minimum grade of C- in all BZ, LIFE, and BC courses used to meet requirements for the

Freshman

		AUCC	Credits
CHEM 111	General Chemistry I (GT-SC2)	3A	4
CHEM 112	General Chemistry Lab I (GT-SC1)	3A	1
CO 150	College Composition (GT-CO2)	1A	3
LIFE 102	Attributes of Living Systems (GT-SC1)	3A	4
LIFE 103	Biology of Organisms-Animals and Plants (GT-SC1)	3A	4
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	
1C (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#aucc)			3
Arts and Humanities (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities)			6
Total Credits			29

Sophomore

BZ 220	Introduction to Evolution		3
CHEM 113	General Chemistry II		3
CHEM 114	General Chemistry Lab II		1
Select one group from the following:			5-8
Group A:			
CHEM 245	Fundamentals of Organic Chemistry		
CHEM 246	Fundamentals of Organic Chemistry Laboratory		
Group B:			
CHEM 341	Modern Organic Chemistry I		
CHEM 343	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		
Historical Perspectives (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives)			3
Social and Behavioral Sciences (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences)			3
Electives			6-9
Total Credits			30

Junior

BZ 325	Plant Systematics		4
BZ 331	Developmental Plant Anatomy		4
BZ 440	Plant Physiology		3

BZ 441	Plant Physiology Laboratory		2
Select one group from the following:			4-6
Group A:			
BC 351	Principles of Biochemistry		
Group B:			
BC 401	Comprehensive Biochemistry I		
BC 403	Comprehensive Biochemistry II		
Select one group from the following:			10
Group A:			
PH 121	General Physics I (GT-SC1)	3A	
PH 122	General Physics II (GT-SC1)	3A	
Group B:			
PH 141	Physics for Scientists and Engineers I (GT-SC1)	3A	
PH 142	Physics for Scientists and Engineers II (GT-SC1)	3A	
Upper Division Botany Concentration Elective (see list below)			3

Total Credits	30-32
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Senior

BZ 310	Cell Biology		4
BZ 350	Molecular and General Genetics	4A,4B	4
BZ 450	Plant Ecology	4C	4
Upper Division Botany Concentration Electives (see list below)			9
Advanced Writing (https://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#advanced-writing)			3
Electives ¹			5-7

Total Credits	29-31
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Program Total Credits:	120
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Upper Division Botany Concentration Electives

Code	Title	Credits			
ATS 350	Introduction to Weather and Climate	2	BZ 477	Genome Editing Laboratory	2
BSPM 308	Ecology and Management of Weeds	3	BZ 492B	Seminar: Ecology	1-3
BSPM 361	Elements of Plant Pathology	3	BZ 492C	Seminar: Genetics	1-3
BSPM 365	Integrated Tree Health Management	4	BZ 492F	Seminar: Evolution	1-3
BSPM 450	Molecular Plant-Microbe Interaction	3	BZ 525	Advanced Conservation & Evolutionary Genomics	4
BZ 223	Plant Identification ²	3	BZ 526/BSPM 526	Evolutionary Ecology	3
or BZ 240	Synthetic Biology-Principles and Applications		BZ 541	Hemp Biology	3
BZ 320	Biogeographic Approaches to Conservation	3	BZ 560	Teaching and Communicating Science	3
BZ 333	Introductory Mycology	4	BZ 562	Computational Approaches in Molecular Ecology	2
BZ 339	Biology Field Practicum	3	BZ 568/FW 568	Sustaining River Ecosystems in Changing World	3
BZ 342	Exploring Range Shifts in a Changing World	3	BZ 570	Molecular Aspects of Plant Development	3
BZ 348/MATH 348	Theory of Population and Evolutionary Ecology	4	BZ 572	Phytoremediation	3
BZ 349	Tropical Ecology and Evolution	3	F 311	Forest Ecology	3
BZ 360	Bioinformatics and Genomics	4	F 313/RS 313	Dendrology and Herbaceous Plant ID	3
BZ 415	Marine Biology	4	F 324	Fire Effects and Adaptations	3
BZ 424/BSPM 424	Principles of Systematic Science	3	F 325	Silviculture	3
BZ 425	Conservation and Population Genomics	3	F 421	Ecological Forest Management	3
BZ 449A	Study Abroad--Ecuador: Ecology/Conservation--Ecuadorian Biodiversity	4	F 430	Forestry Field Practices	3
BZ 460	Genome Evolution	4	F 466/HORT 466	Urban and Community Forestry	3
BZ 471	Stream Biology and Ecology	3	F 510	Ecophysiology of Trees	3
BZ 472	Stream Biology and Ecology Laboratory	1	GR 348	Biogeography	3
			HORT 401	Medicinal and Value-Added Uses of Plants	3

HORT 476	Environmental Plant Stress Physiology	3
PHIL 325	Philosophy of Science	3
RS 351	Wildland Ecosystems in a Changing World	3
RS 378	Disturbance Ecology	2
SOCR 210	Microbiome Roles in a Sustainable Earth	3
SOCR 335	Applied Plant Genetics	3
SOCR 375	Soil Biogeochemistry	3
SOCR 440	Pedology and Soil Survey	4
SOCR 441	Soil Ecology	3
SOCR 442	Forest and Range Soils	3

A maximum of 3 credits may be selected from the following courses:

BZ 384	Supervised College Teaching
BZ 487	Internship
BZ 495	Independent Study
BZ 498	Laboratory or Field Research

¹ Select enough elective credits to bring the program total to a minimum of 120 credits, of which at least 42 must be upper-division (300- to 400-level).

² Students may take BZ 223 OR BZ 240. Only one course will count towards the major.