

BIOLOGICAL SCIENCE MAJOR: BOTANY CONCENTRATION

GRADUATION REQUIREMENTS

1. Complete all AUCC, Botany Core, Physical Sciences/Math, and Major Elective Requirements.
2. **Minimum of 120 total credits.**
3. Minimum of **42 upper division credits** (300 level or above).
*30 upper division credits must be in-residence at CSU
4. Minimum of **2.0 CUMULATIVE GPA.**

ALL UNIVERSITY CORE CURRICULUM (AUCC)

Must earn at least a 2.0 cumulative GPA in the AUCC courses.

Category 1

- 1A. Fundamental Competency – CO 150 (3 credits) _____
 - 1B. Fundamental Competency (3 credits) fulfilled by major
 - 1C. Fundamental Competency (3 credits) _____
2. Advanced Writing (3 credits) _____

Category 3: Foundations and Perspectives

- 3A. Bio/Phys Sciences (7 credits) fulfilled by major
- 3B. Arts/Humanities (6 credits) _____
- 3C. Social/Behavioral (3 credits) _____
- 3D. Historical Perspectives (3 credits) _____

Category 4: Depth and Integration

BZ 350 and BZ 450 (see CORE Requirements below)

GRADE REQUIREMENTS

Must earn at least a C- in all Biology Core & Major Elective courses. This also applies to courses taken as substitutions for these requirements.

BOTANY CORE REQUIREMENTS

- LIFE 102 Attributes of Living Systems (4) _____
- LIFE 103 Biology of Organisms (4) _____
- BZ 220 Introduction to Evolution (3) _____
- BZ 310 Cell Biology (4) _____
- BZ 350 Molecular & General Genetics (4) _____
- BZ 325 Plant Systematics (4) _____
- BZ 331 Plant Anatomy (4) _____
- BZ 440 Plant Physiology (3) _____
- BZ 441 Plant Physiology Lab (2) _____
- BZ 450 Plant Ecology (4) _____

MAJOR ELECTIVES

Select a minimum of 12 credits of electives listed on back of the check sheet.

PHYSICAL SCIENCES/MATH

CHEMISTRY

CHEM 111 (4) _____ CHEM 112 (1) _____

AND

CHEM 113 (3) _____ CHEM 114 (1) _____

ORGANIC CHEMISTRY

CHEM 245 (4) _____ CHEM 246 (1) _____

OR

CHEM 341* (3) _____ CHEM 343 (3) _____

CHEM 344 (2) _____

BIOCHEMISTRY

BC 351 (4) _____

OR

BC 401 (3) _____ BC 403 (3) _____

PHYSICS

PH 121 (5) _____ PH 122 (5) _____

OR

PH 141 (5) _____ PH 142 (5) _____

CALCULUS

MATH 155 (4) _____ **OR** MATH 160 (4) _____

STATISTICS

STAT 301 (3) _____ **OR** STAT 307 (3) _____

* Chemistry requires C or better in CHEM 341 to move on to CHEM 343.

***With approval of the Curriculum Committee, up to 3 credits of the following can be applied toward a student's major electives:**

*BZ 384 Supervised College Teaching

*BZ 487 Internship

*BZ 495 Independent Study

*BZ 498 Laboratory or Field Research

The following is a list of Botany-related electives that can be used to fulfill the Major Electives requirement:
 Students must complete a **minimum of 12 credits** from this list. **At least 6 credits must be from “BZ” courses.**

BZ 223 (3) Plant Identification (online)	ATS 350 (2) Introduction to Weather & Climate
BZ 240 (3) Synthetic Biology – Principles and Applications	BSPM 308 (3) Ecology & Management of Weeds
BZ 320 (3) Biogeographic Approaches to Conservation	BSPM 361 (3) Elements of Plant Pathology
BZ 333 (4) Introductory Mycology (summer only)	BSPM 365 (4) Integrated Tree Health Management
BZ 339 (3) Field Practicum	BSPM 450 (3) Molecular Plant-Microbe Interaction
BZ 342 (3) Exploring Range Shifts in a Changing World	F 310 (3) Forest & Rangeland Ecology
BZ 348 (4) Theory of Population and Evolutionary Ecology	F 311 (3) Forest Ecology
BZ 349 (3) Tropical Ecology and Evolution	F 312 (2) Dendrology
BZ 360 (3) Bioinformatics & Genomics	F 324 (3) Fire Effects & Adaptations
BZ 415 (4) Marine Biology	F 325 (3) Silviculture
BZ 424 (3) Principles of Systematic Science	F 421 (3) Ecological Forest Management
BZ 425 (3) Conservation and Population Genomics	F 430 (3) Forestry Field Practices
BZ 449A (4) Study Abroad: Ecuador – Ecology/Conservation	F 466 (3) Urban and Community Forestry
BZ 460 (4) Genome Evolution	F 510 (3) Ecophysiology of Trees
BZ 471 (3) Stream Biology and Ecology	GR 348 (3) Biogeography
BZ 472 (1) Stream Biology and Ecology Lab	HORT 401 (3) Medicinal & Value-Added Uses of Plants
BZ 477 (2) Genome Editing	HORT 476 (3) Environmental Plant Stress Physiology
BZ 492 A-G (1) Seminar (topic dependent on instructor)	RS 331 (3) Wildland Plants & Plant Communities
BZ 525 (4) Advanced Conservation & Evolutionary Genomics	RS 351 (3) Wildland Ecosystems in a Changing World
BZ 526 (3) Evolutionary Ecology	RS 378 (2) Disturbance Ecology
BZ 530 (2) Ecological Plant Morphology	RS 420 (3) Grass Taxonomy
BZ 540 (2) Translocation in Plants	SOCR 335 (3) Applied Plant Genetics
BZ 541 (3) Hemp Biology (online)	SOCR 375 (3) Soil Biogeochemistry
BZ 544 (2) Effective Science Communication	SOCR 440 (4) Pedology and Soil Survey
BZ 560 (3) Teaching and Communication Science	SOCR 441 (3) Soil Ecology
BZ 562 (2) Computational Approaches in Molecular Ecology	SOCR 442 (3) Forest and Range Soils
BZ 568 (3) Sustaining River Ecosystems in Changing World	PHIL 325 (3) Philosophy of Natural Science
BZ 570 (3) Molecular Aspects of Plant Development	PHIL 326 (3) Philosophy of Biology
BZ 572 (3) Phytoremediation	

TRACK 1 HONORS PROGRAM STUDENTS ARE REQUIRED TO TAKE THE FOLLOWING COURSES TO FULFILL THE AUCC CURRICULUM

Category 1: Fundamental Competencies

HONR 192 First Year Seminar (3) _____

HONR 193 Seminar (3) _____

Category 2: Fundamental Competency

Advanced Writing (3) _____

Category 3B: Arts/Humanities

HONR 292B Seminar (3) _____

HONR 392 Seminar (3) _____

Category 3C: Social/Behavioral

HONR 492 Senior Seminar (3) _____

Category 3D: Historical Perspectives and 1C: Fundamental Competency

HONR 399 Pre-Thesis (1) _____

HONR 499 Thesis (3) _____