

B. S. IN SOILS AND SUSTAINABLE CROP SYSTEMS

Concentration: Agricultural Biotechnology

Emphasis: Agricultural Biosystems and Technology

Emphasis: Agricultural Biotechnology and Global Society

FRESHMAN YEAR

First Semester

BIOL 110 Prin. of Biol. I¹	5(4,3)
CH 101 General Chemistry	4(3,3)
MTHSC 102 Intro to Math Analysis²	3(3,0)
or MTHSC 106 Calculus of One Var. I	4(4,0)
SSCS 101 SSCS Survey	1(1,0)
Arts and Humanities (Non-Literature) Req.³	3(3,0)

Semester Hours: 16-17

Second Semester

BIOL 111 Prin. of Biol. II ¹	5(4,3)
CH 102 Gen. Chemistry	4(3,3)
ENGL 103 Accelerated Composition	3(3,1)
EXST 301 Intro. Statistics	3(2,2)
or MTHSC 108 Calculus of One Var. II	4(4,0)
or MTHSC 207 Multivar. Calculus	4(4,0)
SSCS 102 Acad. & Prof. Dev. I	1(1,0)

Semester Hours: 16-17

SOPHOMORE YEAR

CH 223 Organic Chemistry	3(3,0)
CH 227 Organic Chemistry Lab	1(0,4)
COMM 250	3(3,0)
ECON 200 Economic Concepts⁴	3(3,0)
or ECON 211 Principles of Microeconomics⁴	3(3,0)
SSCS 333 Agricultural Genetics	3(3,0)
Arts and Humanities (Literature) Req.³	3(3,0)

Semester Hours: 16

AP EC 205 Agri. & Society	3(3,0)
BIOSC 335 Evolutionary Biology	3(3,0)
CH 224 Organic Chemistry II	3(3,0)
CH 228 Organic Chemistry II Lab	1(0,4)
GEN 300 Fundamental Genetics.	3(3,0)
GEN 301 Fundamental Genetics Lab	1(0,3)

Semester Hours: 14

JUNIOR YEAR

BIOCH 305 Essen. Elem.Biochemistry	3(3,0)
BIOCH 306 Essen. Elem.Biochemistry Lab	1(0,3)
BIOSC 304 Biology of Plants	3(3,0)
CSENV 422 Major World Crops	3(3,0)
SSCS 335 Agricultural Biotechnology	3(2,2)
Social Science Requirement³	3(3,0)

Semester Hours: 16

CSENV 350 Practicum	1
ENGL 314 Technical Writing	3
PLPA 310 Plant Diseases and People	3(2,3)
PLPH 340 Plant, Medicine and Magic	3(3,0)
SSCS 401 Acad. & Prof. Dev II	1(1,0)
Emphasis Area ⁵	4

Semester Hours: 15

SENIOR YEAR

BIOSC 401 Plant Physiology	3(3,0)
BIOSC 402 Plant Physiology Lab	1(0,3)
CSENV 350 Practicum	3
ENT (BIOSC) 301 Insect Biology and Diversity	4(3,3)
SSCS 445 Regulatory Issues	1(1,0)
SSCS 450 Ag Biosys&Risk Assess Sem	1(1,0)
Emphasis Area ⁵	3

Semester Hours: 16

CSENV 350 Practicum	2
CSENV 417 Weed Ecology and Morphology	3(2,2)
SSCS 451 Ag Biotech&Global Impact Sem	1(1,0)
Emphasis Area ⁵	9

Semester Hours: 15

Total Semester Hours = 124-126 (Classes in bold are General Education Requirements)

¹BIOL 110 and 111 are strongly recommended; however, BIOL 103 and 104 may substitute.

²MTHSC 106 is recommended.

³See General Education Requirements. PHIL 103 is recommended to satisfy the Arts & Humanities Non-lit. Requirement.

⁴ECON 200 is recommended for students in the Agricultural Biosystems and Technology Emphasis. ECON 211 is recommended for students in the Agricultural Biotechnology and Global Society Emphasis.

⁵Selected from department-approved list. Courses to support proficiency in a foreign language also are encouraged.

Department-Approved Courses: Agricultural Biotechnology

Biosystems/Technology: Agricultural Biosystems and Technology students should select at least three courses from the Biosystems and Technology emphasis-approved list.

BIOSC 302/306	Invertebrate Biology/Lab	4(3,3)
BIOSC 304/308	Biology of Plant/Practicum	4(3,3)
BIOSC 313	Conservation Biology	3(3,0)
BIOSC 406/407	Introductory Plant Taxonomy/Lab	4(3,3)
BIOSC (AVS) 414	Basic Immunology	4(4,3)
BIOSC 425	Introductory Mycology	3(3,0)
BIOSC 426	Mycology Practicum	2(1,2)
BIOSC 432/433	Animal Histology	5(4,2)
BIOSC 446	Plant Ecology	3(3,0)
BIOSC 452/453	Plant Anatomy and Physiology/Lab	5(4,2)
BIOSC 454	Plant Virology	4(3,3)
BIOSC (HORT) 465	Plant Molecular Biology	3(3,0)
BIOSC 475	Comparative Physiology	3(3,0)
CSENV 405	Plant Breeding	3(2,2)
CSENV 407	Introductory Weed Science	3(2,2)
CSENV 490	Beneficial Soil Organisms in Plant Growth	3(3,0)
ENT 407	Applied Agricultural Entomology	4(3,3)
ENT (BIOSC) 415	Insect Taxonomy	4(1,6)
ENT (BIOSC) 400	Insect Morphology	4(3,3)
ENT (BIOSC) 436	Insect Behavior	3(2,3)
ENT 495	Insect Biotechnology	3(3,3)
GEN (BIOSC) 416	Recombinant DNA	3(3,0)
GEN (BIOSC) 418	Biotechnology I: Nucleic Acids Techniques	4(2,4)
GEN 440	Bioinformatics	3(3,0)
MICRO 305	General Microbiology	4(3,3)
PLPA 459	Plant Nematology	3(3,3)
PLPA 470	Molecular Plant-Pathogen Interaction	3(3,0)

Economics & Policy: Students in Agricultural Biotechnology and Global Society should select at least two courses from the Economics & Policy cluster.

ENR 429	Environmental Law and Policy	3(3,0)
ECON 310	International Economy	3(3,0)
ECON 314	Intermediate Microeconomics	3(3,0)
ECON (ELE) 321	Economics of Innovation	3(3,0)
ECON 350	Moral & Ethical Aspect of a Market Econ	3(3,0)