

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 Principles of Biology I¹5(4,3)
CH 101 General Chemistry4(3,3)
MTHSC 102 Intro. to Math. Analysis²3(3,0)
or **MTHSC 106 Calculus of One Var. I²**4(4,0)
SSCS 101 Survey of SSCS1(1,0)
Arts and Humanities (Non-Literature) Req.³3(3,0)

Semester Hours: 16-17

Second Semester

BIOL 111 Principles of Biology II¹5(4,3)
CH 102 General Chemistry4(3,3)
ENGL 103 Accelerated Composition3(3,1)
EXST 301 Introductory Statistics3(2,2)
or MTHSC 108 Calculus of One Var. II4(4,0)
or MTHSC 207 Multivariable Calculus4(4,0)
SSCS 102 Academic & Prof. Development I1(1,0)

Semester Hours: 16-17

SOPHOMORE YEAR

CH 223/227 Organic Chemistry & Lab4(3,3)
COMM 250 Public Speaking3(3,0)
ECON 200 Economic Concepts⁴3(3,0)
or **ECON 211 Principles of Microeconomics⁴**3(3,0)
SSCS 333 Agricultural Genetics3(3,0)
Arts and Humanities (Literature) Req³3(3,0)

Semester Hours: 16

AP EC 205 Agriculture & Society3(3,0)
BIOSC 335 Evolutionary Biology3(3,0)
CH 224/228 Organic Chemistry & Lab³4(3,3)
GEN 300/301 Fundamental Genetics & Lab4(3,3)

Semester Hours: 14

JUNIOR YEAR

BIOCH 305/306 Essen. Elem.Biochemistry & Lab.4(3,3)
BIOSC 304 Biology of Plants3(3,0)
CSENV 422 Major World Crops3(3,0)
SSCS 335 Agricultural Biotechnology3(2,2)
Social Science Requirement³3(3,0)

Semester Hours: 16

CSENV 350 Practicum1
ENGL 315 Scientific Writing & Communication3
PLPA 310 Plant Diseases and People3(2,2)
PLPH (BIOSC) 340 Plant Medicine & Magic3(3,0)
SSCS 401 Academic & Prof. Development II1(1,0)
Emphasis Area Requirement⁵4

Semester Hours: 15

SENIOR YEAR

BIOSC 401/402 Plant Physiology & Lab4(3,3)
CSENV 350 Practicum3
ENT (BIOSC) 301 Insect Biology and Diversity4(3,3)
SSCS 445 Regulatory Issues1(1,0)
SSCS 450 Agric. Biosystems & Risk Assess.1(1,0)
Emphasis Area⁵3

Semester Hours: 16

CSENV 350 Practicum2
CSENV 417 Weed Ecology and Morphology3(2,2)
SSCS 451 Agric. Biotech & Global Society1(1,0)
Emphasis Area⁵9

Semester Hours: 15

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

¹BIOL 110 and 111 are strongly recommended; however, BIOL 103/105 may substitute for BIOL 110 and 104/106 may substitute for BIOL 111.

²MTHSC 106 is recommended.

³See General Education Requirements.

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

⁵Select from department-approved list. Emphasis areas include Agricultural Biosystems and Technology and Agricultural Biotechnology and Global Society.

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)

Courses to support proficiency in a foreign language also are encouraged.