APPLIED AND AGRICULTURAL BIOLOGY (ENVIRONMENTAL BIOLOGY) - BACHELOR OF SCIENCE IN AGRICULTURE

The agricultural biology course work prepares you for a variety of careers in the biological sciences and agriculture. You will develop your curriculum with an academic advisor to attain your individual goals. Many will pursue advanced degrees in the sciences or prepare for admittance to professional schools (medical, dental, etc.). A diverse program is offered with five separate concentrations that allow you to tailor your program for careers in the commercial sector, such as agricultural consulting, and pest management or for careers with county, state, or federal agencies, such as research technicians, land managers, and extension agents. A minimum of 120 credit hours is required for graduation. Any undergraduate student majoring in Agricultural Biology must earn a grade of C- or higher in core (EPWS prefix) courses to satisfy degree requirements. Students earning a D or F in a core (EPWS prefix) course will be expected to repeat that course until the student earns a grade of C- or higher. The following courses are required for a major in Agricultural Biology.

The Environmental Biology concentration prepares you for professional positions in environmental impact, regulation, compliance and improvement.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I	4
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional and Technical Communication	
ENGL 2210H	Professional and Technical Communication	
ENGL 2215G	Advanced Technical and Professional Communication	
Oral Communication		
Choose one from the following:		3
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
or HNRS 2175G	Introduction to Communication Honors	
COMM 1130G	Public Speaking	
Area II: Mathematics		
MATH 1220G	College Algebra [1]	3
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*11*
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Area IV: Social/Behavioral Sciences Course (3 credits) [2]		
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution	3
Viewing a Wider World [3]		**6**
One must be from outside of the College of ACES		
Departmental/College Requirements		
A ST 311	Statistical Applications	3
AGRO 305	Principles of Genetics	3
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	3
BIOL 311	General Microbiology	3
BIOL 313	Structure and Function of Plants	3
or BIOL 322	Zoology	
EPWS 1110	Applied Biology	3
EPWS 1110L	Applied Biology Lab	1
EPWS 301	Agricultural Biotechnology	3
EPWS 302	General Entomology	4
EPWS 310	Plant Pathology	4
EPWS 311	Introduction to Weed Science	4
EPWS 447	Seminar	1
Concentration Coursework		
ENVS 301	Principles of Ecology	3
CHEM 2120	Integrated Organic Chemistry and Biochemistry (CHEM 2120 must be taken in association with 1-cr Lab))	3
EPWS 380V	Science & Society	3
EPWS 314	Plant Physiology	3
EPWS 455	Advanced Integrated Pest Management	3
EPWS 492	Diagnosing Plant Disorders	3
MATH 1430G	Applications of Calculus I	3
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
SOIL 2110	Introduction to Soil Science	3
TOX 361	Basic Toxicology	3
Select at least two courses from the following:		5-8
AGRO 365	Principles of Crop Production	
AGRO 471	Plant Mineral Nutrition	
ENVS 370	Environmental Soil Science	
BCHE 395	Biochemistry I	
EPWS 420	Environmental Behavior of Pesticides	
EPWS 451	Special Topics	
GEOG 381	Cartography and GIS	
SOIL 312	Soil Management and Fertility	
TOX 361	Basic Toxicology	
Second Language: (not required)		
Electives, to bring the total credits to 120 [4]		**7-10**
EPWS 325V	Insects, Humans, and the Environment (recommended)	
Total Credits		**120**

[1] MATH 1220G College Algebra is required for the degree but students may need to take any prerequisites needed to enter MATH 1220G College Algebra first.

[2] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses

[3] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses

[4] Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1220G College Algebra and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year		
Semester 1		**Credits**
ENGL 1110G or ENGL 1110H	Composition I [1] or Composition I Honors	4
MATH 1220G	College Algebra [1]	3
EPWS 1110 & 1110L	Applied Biology and Applied Biology Lab	4
ACES 1120	Freshman Orientation	1
Area IV: Social and Behavioral Science Course [2]		3
	Credits	**15**
Semester 2		
ENGL 2210G or ENGL 2210H	Professional and Technical Communication [1] or Professional and Technical Communication	3
MATH 1430G	Applications of Calculus I [1]	3
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution [1]	3
ACOM 1130G	Effective Leadership and Communication in Agriculture	3
Area V: Humanities Course [2]		3
	Credits	**15**
Second Year		
Semester 1		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	3
EPWS 380V	Science & Society	3
Area VI: Creative and Fine Arts Course [2]		3
Elective Course		2
	Credits	**15**
Semester 2		
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
BIOL 311	General Microbiology [1]	3
BIOL 313 or BIOL 322	Structure and Function of Plants (Fall Only) [1] or Zoology	3
VWW: Viewing a Wider World Course [3]		4
	Credits	**14**
Third Year		
Semester 1		
CHEM 2115	Survey of Organic Chemistry and Laboratory	4
AGRO 305	Principles of Genetics	3
SOIL 2110	Introduction to Soil Science	3
EPWS 310	Plant Pathology (Fall Only) [1]	4
A ST 311	Statistical Applications [1]	3
	Credits	**17**
Semester 2		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	4
EPWS 301	Agricultural Biotechnology (Spring Only) [1]	3
VWW: Viewing a Wider World Course [3]		3
Departmental Elective Course [4]		3
Elective Course		3
	Credits	**16**
Fourth Year		
Semester 1		
EPWS 311	Introduction to Weed Science	4
EPWS 302	General Entomology	4
EPWS 492	Diagnosing Plant Disorders	3
TOX 361	Basic Toxicology	3
Elective Course		1
	Credits	**15**
Semester 2		
EPWS 447	Seminar	1
EPWS 455	Advanced Integrated Pest Management (Odd Year Spring Only) [1]	3
ENVS 301	Principles of Ecology	3
EPWS 314	Plant Physiology [1]	3
Departmental Elective Course [4]		3
	Credits	**13**
	Total Credits	**120**

[1] These courses have prerequisites and it is the students responsibility to check and fulfill all course prerequisites listed for these courses.

[2] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

[3] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.

[4] Departmental Elective Course LIst (two required):

- AGRO 365 Principles of Crop Production (Odd Years Fall Only)
- AGRO 471 Plant Mineral Nutrition (Odd Years Spring Only)
- EPWS 325V Insects, Humans, and the Environment
- EPWS 420 Environmental Behavior of Pesticides
- EPWS 451 Special Topics (Spring Only)

- ENVS 370 Environmental Soil Science
- GEOG 381 Cartography and GIS