**Requirements**

**Departmental Requirements**

A ST 311 Statistical Applications 3

AGRO 305 Principles of Genetics 3

BIOL 111G Natural History of Life 3

BIOL 211G Cellular and Organismal Biology 3

BIOL 311 General Microbiology 3

BIOL 313 Structure and Function of Plants 3

or BIOL 322 Zoology

CHEM 11G General Chemistry I 4

CHEM 112G General Chemistry II 4

ENGL 111G or 111H Rhetoric and Composition 4

EPWS 100 Applied Biology 3

EPWS 100 L Applied Biology Lab 1

EPWS 301 or 301H Agricultural Biotechnology 3

EPWS 302 or 302H General Entomology 4

EPWS 310 or 310H Plant Pathology 4

EPWS 311 or 311H Introduction to Weed Science 4

EPWS 447 or 447H Seminar 1

MATH 121G College Algebra 3

Select one from the following: 3

COMM 253G .

COMM 265G .

AXED 201G .

HON 265G .

Select one from the following: 3

ENGL 211G

ENGL 218G .

**General Education Electives**

Go to the Honors College website and look at the courses being offered in in the following areas. Search for those courses when you register for the semester.

Humanities and Fine Arts 6-9

Social and Behavioral Sciences 6-9

**Viewing a Wider World**

Go to the Honors College website and look at the courses being offered in Viewing a Wider World. Search for those courses when you register for the semester.

Select 6 credits at the 300 or 400 level1  6

Concentrations/Options

Select at least one from the following options:2 .

Applied Biology

Applied Microbiology .

Entomology

Environmental Biology .

Pest Biology and Management

Total credits 114-129

**AGRICULTUAL BIOLOGY – BACHELOR OF SCIENCE IN AGRICULTURE- HONORS TRACK**

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 options 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 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.

**HONORS COLLEGE:**

The highlighted courses reflect options of Honors Courses to take. The Honors College requires students to take **a total of 18 credit hours** with an **honors designation**, of which at least 9 credits must be upper division (300+). These are classes with an HON prefix or **courses by contract**\*. 3 of the total 18 must be a Senior Capstone experience taken under HON 400 or HON 410 or by contract.

Not all of the honors courses highlighted are offered every semester. Be sure to talk to your advisor and to check the Honors College website for a list of approved courses for the semester. Go to the Honors College website🡪 For Students tab🡪 Courses or use the Course Lookup Screen and scroll to HON in the drop down menu. Look at the courses being offered in Areas IV (Behavioral Sciences), V (Humanities and Fine Arts) , or Viewing the Wider World. Search for those courses when you register for the semester.

\*Honors Course by Contract: Non-Honors courses may count as upper level Honors courses by contracting the course. An Honors Contract is a mechanism for adding an “honors dimension” to a course that is not listed as an honors course. The contract allows honors students to convert a regular non-honors course that is numbered 300 or higher into an honors course that counts towards graduation with University Honors. If the course is cross-listed as a graduate-level course, students should enroll in the 500 level class. Go to [www.honors.nmsu.edu/for-students/honors-courses-by-contract/](http://www.honors.nmsu.edu/for-students/honors-courses-by-contract/) for more information.

\*\*Masters Accelerated Program: MAP is a program that allows students with a 3.0 GPA or higher to take up to 12 graduate credits during their undergraduate that can be applied towards a Master’s degree. Any 450 level class or above can count towards MAP and it can count as Honors College credits and General University credits. Go to https://honors.nmsu.edu/masters-accelerated-program-map/

microbiology, food sanitation, research or graduate study.

**Required Courses:**

BCHE 341 Survey of Biochemistry 4

BIOL 311 L General Microbiology Laboratory 2

BIOL 451 Physiology of Microorganisms 3

BIOL 473 Ecology of Microorganisms 3

CHEM 313 Organic Chemistry I 3

CHEM 314 Organic Chemistry II 3

CHEM 315 Organic Chemistry Laboratory 2

EPWS 373 Fungal Biology 3

EPWS 420 Environmental Behavior of Pesticides 3

EPWS 486 Plant Virology 3

MATH 142G Calculus for the Biological and 3

Management Sciences .

PHYS 211G General Physics I 3

PHYS 212 GL General Physics II Laboratory 1

Select 6-7 credits from the following: 6-7

A ST 456 Statistical Methods and Data An alysis .

AGRO 471 Plant Mineral Nutrition

BIOL 477 Applied and Environmental Microbiology .

E S 301 Principles of Ecology

E S 370 Environmental Soil Science .

EPWS 455 Advanced Integrated Pest Management .

EPWS 462 Parasitology .

EPWS 481 Plant Nematology .

EPWS 492 Diagnosing Plant Disorders .

FSTE 320 Food Microbiology

SOIL 252 Soils .

SOIL 312 Soil Management and Fertility

SOIL 476 Soil Microbiology .

TOX 361 Basic Toxicology

Total Credits 42-43

**Concentration: Entomology**

The Entomology concentration prepares you for graduate degrees in entomology. Emphasis is placed on a broad background in field and laboratory aspects of insect biology and management.

**Required Courses:**

MATH 142G Calculus for the Biological and 3

Management Science .

BIOL 465 Invertebrate Zoology 4

CHEM 211 Organic Chemistry 4

EPWS 303 Economic Entomology 3

EPWS 325V Insects, Humans, and the Environment 3

EPWS 455 Advanced Integrated Pest Management 3

EPWS 462 Parasitology 3

EPWS 475 or 475H Urban Entomology 3

EPWS 481 Plant Nematology 3

EPWS 492 Diagnosing Plant Disorders 3

1 Select two General Education Courses: one must be from a college outside of Agricultural, Consumer and Environmental Sciences.

2In addition to the departmental requirements listed above, you must also complete all of the courses in at least one of the options listed below. Courses with higher numbered prefixes may replace courses listed as departmental requirements in some cases.

**Agricultural Biology Concentrations/ Options**

**Concentrations: Applied Biology**

The Applied Biology option prepares you for professional advancement including admittance to medical, dental, veterinary and graduate schools. Students interested in the health professions must register with the Health Advisory Committee no later than the sophomore year. Students should check the specific entrance requirements for the professional or graduate school of their choice prior to selecting electives within this option.

**Required Courses**

BCHE 341 Survey of Biochemistry 4

CHEM 313 Organic Chemistry I 3

CHEM 314 Organic Chemistry II 3

CHEM 315 Organic Chemistry Laboratory 2

MATH 190G Trigonometry and Precalculus 4

MATH 191 G Calculus and Analytic Geometry I 4

PHYS 211G General Physics I 3

or PHYS 221G General Physics for Life Sciences I .

PHYS 211GL General Physics I Laboratory 1

or PHYS 221GL Laboratory to General Physics for Life

Science I

Select 6-8 credits from the following: 6-8

ANSC 370 Anatomy and Physiology of Farm

Animals

BIOL 312 Plant Taxonomy .

BIOL 354 Physiology of Humans

BIOL 377 Cell Biology .

EPWS 314 or 314H Plant Physiology .

EPWS 373 Fungal Biology .

EPWS 481 Plant Nematology .

**Suggested Electives: .**

MATH 192 Calculus and Analytic Geometry II 4

PHYS 212G General Physics II 3

or PHYS 222G General Physics for Life Sciences II .

Total Credits 37-39

**Option: Applied Microbiology**

The Applied Microbiology biotin prepares you for the professional positions in algal biofuels, environmental monitoring and improvement, industrial applications of

Select at least three from the following: 7-11

EPWS 314 or 314H Plant Physiology .

EPWS 451 Special Topics .

EPWS 456 Biological Control

EPWS 486 Plant Virology .

BIOL 301 Principles pf Ecology

AGRO 365 Principles of Crop Production .

AGRO 471 Plant Mineral Nutrition

SOIL 252 Soils .

ANSC 370 Anatomy and Physiology of Farm

Animals

BIOL 436 Disease Vector Biology .

BIOL 462 Conservation Biology

BIOL 469 Biology of Emerging Infectious .

Diseases .

BIOL 480 Animal Behavior

GENE 452 Applied Bioinformatics .

E S 301 Principles of Ecology

Total Credits 39-43

**Concentration: Environmental Biology**

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

**Required Courses**

CHEM 211 Organic Chemistry 4

E S 301 Principles of Ecology 3

E S 330 Environmental Management 1

Seminar I .

E S 430 Environmental Management 1

Seminar II

EPWS 380V or 380H Science and Society 3

EPWS 314 or 314H Plant Physiology 3

EPWS 455 Advanced Integrated Pest 3

Management .

EPWS 492 Diagnosing Plant Disorders 3

MATH 142G Calculus for the Biological and 3

Management Sciences .

PHYS 211G General Physics I 3

PHYS 211GL General Physics Laboratory 1

SOIL 252 Soils 3

TOX 361 Basic Toxicology 3

Select at least two from the following: 5-8

A ST 456 Statistical Methods and Data .

Analysis .

AGRO 365 Principles of Crop Production

AGRO 471 Plant Mineral Nutrition .

BCHE 341 Survey of Biochemistry

E S 370 Environmental Soil Science .

EPWS 420 Environmental Behavior of Pesticides

EPWS 451 Special Topics .

EPWS 481 Plant Nematology .

GEOG 381 Cartography and Geographic .

Information Systems .

SOIL 312 Soil Management and Fertility

TOX 361 Basic Toxicology .

Total Credits 39-42

**Concentration: Pest Biology and Management**

This option prepares you for careers such as insect, weed and disease management; in both field and urban environments, including IPM and Sustainable/Organic Techniques research technician; federal and state agencies; border security; agricultural consulting; and extension positions.

**Required Courses**

CHEM 211 Organic Chemistry 4

EPWS 314 or 314H Plant Physiology 3

EPWS 455 Advanced Integrated Pest 3

Management .

EPWS 481 Plant Nematology 3

or EPWS 462 Parasitology .

EPWS 492 Diagnosing Plant Disorders 3

MATH 142G Calculus for the Biological and 3

Management Science

PHYS 110G The Great Ideas of Physics 4

SOIL 252 Soils 3

SOIL 312 Soil Management and Fertility 3

TOX 361 Basic Toxicology 3

Select one from the following: 3

BIOL 312 Plant Taxonomy

RGSC 357 Grass Taxonomy and Identification .

RGSC 316 Rangeland Plants

Select 3 credits from the following: 3

EPWS 451 Special Topics

AGRO 365 Principles of Crop Production .

BIOL 301 Principles of Ecology

Total Credits 38