AGRICULTURAL BIOLOGY (APPLIED MICROBIOLOGY) - 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 the 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.

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
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**General Education**<br>Area I: Communications<br>English Composition - Level 1<br>ENGL 1110G Composition I | | 4<br>English Composition - Level 2<br>Choose one from the following: ENGL 2215G Advanced Technical and Professional Communication, ENGL 2210G Professional & Technical Communication, ENGL 2210H Professional and Technical Communication Honors, ENGL 2130G Advanced Composition | 3<br>Oral Communication<br>Choose one from the following: AXED 2120G Effective Leadership and Communication in Agriculture, COMM 1115G Introduction to Communication, COMM 1130G Public Speaking | 3<br>Area II: Mathematics<br>MATH 1220G College Algebra | 3<br>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences | 11
Area V: Humanities | 3<br>Area VI: Creative and Fine Arts | 3<br>General Education Elective<br>Biol 2610G Principles of Biology: Biodiversity, Ecology, and Evolution | 3<br>Viewing a Wider World | 6<br>One must be from outside of the College of ACES
Department/College Requirements<br>CHEM 1216G, CHEM 1226G and BIO 2610G will count towards Departmental/College and General Education Requirements
A ST 311 Statistical Applications 3<br>AGRO 305 Principles of Genetics 3<br>Biol 2110G Principles of Biology: Cellular and Molecular Biology 3<br>Biol 311 General Microbiology 3<br>Biol 313 Structure and Function of Plants or Biol 322 Zoology 3<br>EPWS 1110 Applied Biology 3<br>EPWS 1110L Applied Biology Lab 1<br>EPWS 301 Agricultural Biotechnology 3<br>EPWS 302 General Entomology 4<br>EPWS 310 Plant Pathology 4<br>EPWS 311 Introduction to Weed Science 4<br>EPWS 447 Seminar 1<br>Concentration Coursework<br>BCHE 341 Survey of Biochemistry 4<br>Biol 311 L General Microbiology Laboratory 2<br>Biol 451 Physiology of Microorganisms 3<br>Biol 473 Ecology of Microorganisms 3<br>CHEM 313 Organic Chemistry I 3<br>CHEM 314 Organic Chemistry II 3<br>CHEM 315 Organic Chemistry Laboratory 2<br>EPWS 373 Fungal Biology 3<br>EPWS 420 Environmental Behavior of Pesticides 3<br>EPWS 486 Plant Virology 3<br>MATH 1430G Applications of Calculus I 3<br>Physics 1230G Algebra-Based Physics I and Algebra-Based Physics I Lab 4<br>**Select 6-7 credits from the following:**<br>AGRO 471 Plant Mineral Nutrition 1<br>Biol 477 Applied and Environmental Microbiology 1<br>Envs 301 Principles of Ecology 1<br>Envs 370 Environmental Soil Science 1<br>EPWS 455 Advanced Integrated Pest Management 3<br>EPWS 462 Parasitology 1<br>EPWS 481 Plant Nematology 1<br>EPWS 492 Diagnosing Plant Diseases 1<br>FSTE 320 Food Microbiology 1<br>Sol 2110 Introduction to Soil Science 1<br>Sol 312 Soil Management and Fertility 1<br>Sol 476 Soil Microbiology 1<br>Tox 361 Basic Toxicology 1
Second Language: (not required)
Electives, to bring the total credits to 120  

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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 section of the catalog for a full list of courses.

3. See the Viewing a Wider World 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.