

AGRICULTURAL SYSTEMS MANAGEMENT, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

The Agricultural System Management minor covers the mechanical, natural resource, processing, and electronic technologies applied in agriculture systems. Students who graduate with this minor will have a solid understanding of how physical sciences and biological principles apply to real world problems in food and fiber industries. With industry teams often formed purposefully with many disciplines represented, this background of applied engineering basics and the focus on quantitative analysis has proven helpful to past graduates.

Integration of the applied technologies is addressed using a systems approach in each required course. Technologies addressed by courses in this minor include electric motors, mechanical and hydraulic power transmission systems, mobile equipment functions and operations, sensor and control systems. The minor is targeted to students who will use these technologies or manage others who are responsible for systems utilizing these technologies. Most courses required for the minor are taught by engineering faculty, and nearly every course has a laboratory period.

What is Agricultural Systems Management?

The Agricultural System Management minor covers the mechanical, natural resource, processing, and electronic technologies applied in agricultural systems. Students can gain a solid understanding of how physical sciences and biological principles apply to real-world problems in food and fiber industries. With industry teams often being multidisciplinary, graduates have found the basic applied engineering and quantitative analysis covered in this minor to be helpful. Technologies addressed by courses in this minor include combustion engines, electric motors, mechanical and hydraulic power transmission systems, mobile equipment functions and operations, sensor and control systems, irrigation, and drainage. The minor is targeted to students who will use these technologies or manage others who are responsible for systems utilizing these technologies. Most courses required for the minor are taught by engineering faculty, and nearly every course has a laboratory period.

You Might Like This Program If...

- You are pursuing an engineering or engineering technology major and want to complement it with applications in agriculture, food, and/or the environment.
- You want to take application-focused classes with interactive labs and hands-on learning opportunities.
- You are interested in solving problems related to fundamental societal needs, like food, water, fiber, and renewable energy.
- You are passionate about sustainability and technology.

Entrance to Minor

Admission to the minor requires introductory calculus (MATH 110 or MATH 140) and introductory physics (PHYS 211 or PHYS 250).

Program Requirements

Requirement	Credits
Requirements for the Minor	18

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10>). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
AGRO 28	Principles of Crop Management	3
ASM 310	Power Transmission in Agriculture	3
ASM 327	Soil and Water Resource Management	3
Additional Courses		
<i>Additional Courses: Require a grade of C or better</i>		
Students must select 6 credits from the following:		6
ASM 424	Precision Agriculture Technology	
BRS 422	Energy Analysis in Agricultural and Biorenewable Systems	
BRS 426	Safety and Health in Agriculture and Biorenewable Industries	
BRS 428	Electric Power and Instrumentation	
BRS 429W	Agricultural and Biorenewable Systems Analysis and Management	
Supporting Courses and Related Areas		
<i>Supporting Courses and Related Areas: Require a grade of C or better</i>		
Select 3 credits in agricultural or environmental sciences in consultation with the minor adviser		3

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

University Park

Jude Liu

Associate Professor
309 Forest Resources Laboratory
University Park, PA 16802
814-863-6844
jliu@psu.edu

Contact

University Park

DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL ENGINEERING
105 Agricultural Engineering Building
University Park, PA 16802
814-865-7792
abeddept@psu.edu

<https://abe.psu.edu/>