

# AGRICULTURAL SCIENCE, B.S.

**Begin Campus:** Any Penn State Campus

**End Campus:** University Park

## Program Description

This major enables students to develop programs of study to serve their individual needs by assembling courses selected from various departments within the College of Agricultural Sciences. The student develops either a broad background in agriculture or a special program of study not currently offered within departments of the college. Students are expected to focus study on one or more disciplines of the agricultural sciences by selecting a minor from the approved list of minors offered by the College of Agricultural Sciences. The student, in consultation with an adviser, is given considerable flexibility for selecting courses to satisfy individual interests and aspirations.

Students can prepare themselves for careers in the following:

- Agricultural and natural resource related sales, and /or public relations
- Food, agricultural and natural resource commodity groups
- Agricultural finance
- Governmental and conservation agencies
- The Cooperative Extension Service
- Land use and appraisal
- International agriculture agencies

## What is Agricultural Science?

The Agricultural Science major allows students to explore the many aspects of agriculture and the environment. Students are able to determine their interests in agriculture and take part in shaping their course work to help them gain the knowledge and skills needed to enter the workforce when they graduate.

## You Might Like this Program If...

- You would like a major that allows you to tailor your coursework to fit your career goals, blending together many disciplines of the agricultural sciences to give you a wide skill set

## Entrance to Major

In order to be eligible for entrance to this major, a student must:

1. attain at least a C (2.00) cumulative grade-point average for all courses taken at the University; and
2. have third-semester classification ([http://www.registrar.psu.edu/registration/semester\\_classification.cfm](http://www.registrar.psu.edu/registration/semester_classification.cfm)).

READ SENATE POLICY 37-30: ENTRANCE TO AND CHANGES IN MAJOR PROGRAMS OF STUDY (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/37-00-entrance-to-a-college-or-major>)

## Degree Requirements

**For the Bachelor of Science degree in Agricultural Science, a minimum of 123 credits is required:**

Requirement	Credits
General Education	45
Electives	6-26
Requirements for the Major	82-90

**18-30 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 0-3 credits of GA courses; 0-3 credits of GHW courses; 9 credits of GN courses; 0-6 credits of GS courses; 9 credits of GWS courses.**

## General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (<http://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program>) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

## Foundations (grade of C or better is required.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

## Knowledge Domains

- **Arts (GA):** 6 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 6 credits
- **Social and Behavioral Sciences (GS):** 6 credits
- **Natural Sciences (GN):** 9 credits

## Integrative Studies (may also complete a Knowledge Domain requirement)

- **Inter-Domain or Approved Linked Courses:** 6 credits

## University Degree Requirements

### First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

### Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

## Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

## Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

## Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

## Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80>)). For more information, check the Suggested Academic Plan for your intended program.

## Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Code	Title	Credits
<b>Prescribed Courses</b>		
AEE 360	Leadership Development for Small Groups	3
AEE 460	Foundations in Leadership Development	3
CAS 100	Effective Speech	3
ENGL 15	Rhetoric and Composition	3
<b>Additional Courses</b>		
AEE 311	Developing Youth Leadership through Organization and Program Structure	3
or AEE 465	Leadership Practices: Power, Influences, and Impact	
AEE 330	Communication in Agricultural and Natural Resource Careers	3
or AEE 440	Communication Methods and Media	
CHEM 101	Introductory Chemistry	3
or CHEM 110	Chemical Principles I	
ENGL 202C	Effective Writing: Technical Writing	3
or ENGL 202D	Effective Writing: Business Writing	
Select one of the following options:		3-4
BIOL 11 & BIOL 12	Introductory Biology I and Introductory Biology II	
BIOL 110	Biology: Basic Concepts and Biodiversity	
BISC 3	Environmental Science	
Select 3-4 credits in Crop Management <sup>1</sup>		3-4
Select 3 credits in any HORT except X95, X96		3
Select 3 credits in Agricultural Economics and Rural Sociology <sup>2</sup>		3
Select 3 credits in International Agriculture of the following:		3

AEE 400	Global Agriculture Education	
CED 450	International Development, Renewable Resources, and the Environment	
INTAG 100	Introduction to International Agriculture	
INTAG 481	Problems in Agriculture in Tropical Areas	
Any College of Agricultural Sciences international course		
Select 1-2 credits in Careers in Agriculture of the following:		1-2
AEE 100	Agricultural Education Orientation	
AG 100	Job Placement Skills and Strategies	
AG 113	Exploring Careers in Agriculture	
ANSC 290	Careers in Animal Agriculture	
ERM 151	Careers and Issues in Environmental Resource Management	
Select 3-4 credits in any ANSC except 291, X95, X96		3-4
Select 3 credits in Technology in Agriculture of the following:		3
AGECO 144	Principles and Practices of Organic Agriculture	
AGECO 457	Principles of Integrated Pest Management	
ANSC 207 & ANSC 208	Animal Products Technology and Animal Products Technology Laboratory	
ERM 210	Environmental Factors and Their Effect on Your Food Supply	
FDSC 200	Introductory Food Science	
PLANT 217	Landscape Soil and Water Management	
Select 6 credits in Natural Resources/Ecology of the following:		6
AGECO 122	Atmospheric Environment: Growing in the Wind	
AGECO 201	Introductory Agroecology	
EGEE 101	Energy and the Environment	
FOR 470	Watershed Management	
SOILS 71	Environmental Sustainability	
SOILS 101	Introductory Soil Science	
SOILS 412W	Soil Ecology	
WFS 209	Wildlife and Fisheries Conservation	
Select 3 credits in Agricultural and Environmental Policy of the following:		3
AG 160	Introduction into Ethics and Issues in Agriculture	
AGECO 134		
CED 201	Introductory Environmental and Resource Economics	
FDSC 105	Food Facts and Fads	

## Supporting Courses and Related Areas

Select 9 credits in Agriculture 9

*Supporting Courses and Related Areas Courses: Require a grade of C or better*

Select 18-21 credits for College of Agricultural Sciences Minor 18-21

- 1 Select any AGECO except X95 and X96, any AGRO except X95, X96, or any ENT except X95, X96.
- 2 Select any AGBM except X95 and X96, any CED except X95, X96, or any RSOC.

## Program Learning Objectives

1. Students enrolled in the Agricultural Science major will be able to analyze a group's leadership and communication dynamics and propose changes that could enhance the group's effectiveness.

2. Students enrolled in the Agricultural Science major will be able to describe and analyze leadership behaviors and skills.
3. Students enrolled in the Agricultural Science major will be able to identify a problem in a community, evaluate the situation based on leadership theory, and propose a solution to the situation.

## 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 (<http://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy>)

## University Park

### Chrystal Wheeler

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## Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2019-20 academic year. To access previous years' suggested academic plans, please visit the archive (<http://bulletins.psu.edu/undergraduate/archive>) to view the appropriate Undergraduate Bulletin edition (*Note: the archive only contain suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin*).

## University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

Fall	Credits Spring	Credits
ENGL 15, 30, or ESL 15 <sup>††</sup>	3 General Education Course (GQ) <sup>††</sup>	3
General Education Course (GQ - MATH 21 recommended) <sup>††</sup>	3 CHEM 101 or 110	3
BIOL 110, 11 <b>and</b> 12, or BISC 3	3-4 CAS 100, 100A, 100B, or 100C <sup>††</sup>	3
AG 150	2 General Education Course	3

General Education Course	3 Agriculture Course (any College of Agricultural Sciences course)	3
		14-15
		15

### Second Year

Fall	Credits Spring	Credits
ANSC 290, AEE 100, ERM 151, AG 100, or SC 101 (Careers in Agriculture)	1-2 AGECO 144, 457, PLANT 217, ENT 457, ERM 210, FDSC 200, or ANSC 207 <b>and</b> ANSC 208 (Technology in Agriculture)	3
Agriculture Course (any College of Agricultural Sciences course)	3 SOILS 412W, AGECO 122, EGEE 101, FOR 470, METEO 122, 427, SOILS 71, SOILS 101, or WFS 209 (Natural Resources/Ecology)	3
Animal Science Course (any ANSC course)	3 General Education Course	3
General Education Course	3 College of Agricultural Sciences Minor Course*	3
General Education Course	3 General Education Course	3
AG 160, 134, CED 201, FDSC 105, or STS 105 (Ag and Environmental Policy)	3	
		16-17
		15

### Third Year

Fall	Credits Spring	Credits
ENGL 202C or 202D <sup>††</sup>	3 AEE 400, AGBM 338, 420, CED 450, FOR 418, FOR 488, or INTAG 100 (International Agriculture)	3
AEE 311 or 465	3 AEE 360	3
SOILS 412W, AGECO 122, EGEE 101, FOR 470, METEO 122, 427, SOILS 71, SOILS 101, or WFS 209 (Natural Resources/Ecology)	3 Horticulture Course (any HORT course)	3
AEE 330 or 440	3 General Education Course	3
College of Agricultural Sciences Minor Course*	3 Elective	3
		15
		15

### Fourth Year

Fall	Credits Spring	Credits
AEE 460	3 Crop Management Course (any AGECO, AGRO, or ENT course)	3
College of Agricultural Sciences Minor Course*	3 College of Agricultural Sciences Minor Course*	3
College of Agricultural Sciences Minor Course*	3 College of Agricultural Sciences Minor Course*	3
Ag Economics & Rural Sociology Course (any AGBM, CED, or RSOC course)	3 Agriculture Course (any College of Agricultural Sciences course)	3
Elective	3 Elective	3

General Education Course (GHW)	1.5 General Education Course (GHW)	1.5
		16.5

Total Credits 123-125

- \* Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

**University Requirements and General Education Notes:**

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

All incoming Schreyer Honors College first-year students at University Park will take ENGL/CAS 137 in the fall semester and ENGL/CAS 138 in the spring semester. These courses carry the GWS designation and replace both ENGL 30 and CAS 100. Each course is 3 credits.

**Advising Notes:**

- Students must complete a minor in the College of Agricultural Sciences (18-21 credits).
- Work with your academic adviser in the development of your plan as some courses are not taught every semester.

**Commonwealth Campuses**

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

**First Year**

Fall	Credits Spring	Credits
ENGL 15, 30, or ESL 15 <sup>††</sup>	3 General Education Course (GQ) <sup>††</sup>	3
General Education Course (GQ - MATH 21 recommended) <sup>††</sup>	3 CHEM 101 or 110	3
BIOL 110, 11 <b>and</b> 12, or BISC 3	3-4 CAS 100, 100A, 100B, or 100C <sup>††</sup>	3
General Education Course	3 General Education Course	3

General Education Course	3 Agriculture Course (any College of Agricultural Sciences course)	3
		15-16

**Second Year**

Fall	Credits Spring	Credits
SOILS 412W, AGECE 122, EGEE 101, FOR 470, METEO 122, 427, SOILS 71, SOILS 101, or WFS 209 (Natural Resources/Ecology)	3 ENGL 202C or 202D <sup>††</sup>	3
Agriculture Course (any College of Agricultural Sciences course)	3 SOILS 412W, AGECE 122, EGEE 101, FOR 470, METEO 122, 427, SOILS 71, SOILS 101, or WFS 209 (Natural Resources/Ecology)	3
Elective	3 General Education Course	3
General Education Course	3 General Education Course	3
General Education Course	3 Agriculture Course (any College of Agricultural Sciences course)	3
		15

**Third Year**

Fall	Credits Spring	Credits
AEE 311 or 465	3 AEE 400, AGBM 338, 420, CED 450, FOR 418, FOR 488, or INTAG 100 (International Agriculture)	3
AGECE 144, 457, PLANT 217, ENT 457, ERM 210, FDSC 200, or ANSC 207 <b>and</b> ANSC 208 (Technology in Agriculture)	3 AEE 360	3
AEE 330 or 440	3 Horticulture Course (any HORT course)	3
ANSC 290, AEE 100, ERM 151, AG 100, or SC 101 (Careers in Agriculture)	1 Animal Science Course (any ANSC course)	3
College of Agricultural Sciences Minor Course*	3 College of Agricultural Sciences Minor Course*	3
		13

**Fourth Year**

Fall	Credits Spring	Credits
AEE 460	3 AG 160, 134, CED 201, FDSC 105, or STS 105 (Ag and Environmental Policy)	3
College of Agricultural Sciences Minor Course*	3 Crop Management Course (any AGECE, AGRO, or ENT course)	3
College of Agricultural Sciences Minor Course*	3 College of Agricultural Sciences Minor Course*	3
Elective	3 College of Agricultural Sciences Minor Course*	3
Ag Economics & Rural Sociology Course (any AGBM, CED, or RSOC course)	3 Elective	3

General Education Course (GHW)	1.5 General Education Course (GHW)	1.5
	16.5	16.5

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<http://aese.psu.edu/majors/agscience/contact>

Total Credits 121-122

- \* Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

#### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy University Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

GWS, GQ, GHW, GN, GA, GH, and GS are abbreviations used to identify General Education program courses. General Education includes Foundations (GWS and GQ) and Knowledge Domains (GHW, GN, GA, GH, GS, and Integrative Studies). Foundations courses (GWS and GQ) require a grade of 'C' or better.

Integrative Studies courses are required for the General Education program. N is the suffix at the end of a course number used to designate an Inter-Domain course and Z is the suffix at the end of a course number used to designate a Linked course.

#### Advising Notes:

- Students must complete a minor in the College of Agricultural Sciences (18-21 credits).
- Work with your academic adviser in the development of your plan as some courses are not taught every semester.

## Career Paths

Faculty and professional academic advisers in the Agricultural Science program support and serve students in career development and preparation, including career decision-making, tailoring the AG SC major to fit career goals, internship and job search strategies, interview preparation, and preparing for employment or graduate school.

### Careers

Students have the opportunity to explore career opportunities through internships relevant to the Agricultural Science major. These internships often lead to career opportunities with the same companies that provided the internship. Students' career options are very diverse, often based on their selection of which minor to explore in conjunction with their major. Many students enter careers directly related to their minor selection.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE AGRICULTURAL SCIENCE PROGRAM (<http://aese.psu.edu/majors/agscience/careers>)

## Contact

### University Park

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