

ANIMAL SCIENCE, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Degree Requirements

For the Bachelor of Science degree in Animal Science, a minimum of 124 credits is required:

Requirement	Credits
General Education	45
Electives	0-13
Requirements for the Major	90-100

18-24 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 0-3 credits of GA courses; 9 credits of GN courses; 3-6 credits of GS courses; 6 credits of GQ courses.

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 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

Common Requirements for the Major (All Options)

Courses taken as common requirements can not be used to meet requirements within the option.

Code	Title	Credits
Prescribed Courses		
ANSC 100	Introduction to Animal Industries	3
ANSC 290	Careers in Animal Agriculture	1
BIOL 110	Biology: Basic Concepts and Biodiversity	4
BMB 211	Elementary Biochemistry	3
<i>Prescribed Courses: Require a grade of C or better</i>		
ANSC 201	Animal Science	4
ANSC 207	Animal Products Technology	2
ANSC 208	Animal Products Technology Laboratory	1
ANSC 300	Anatomy and Physiology of Domestic Animals	3
ANSC 301	Principles of Animal Nutrition	3
Additional Courses		
AGBM 101	Economic Principles of Agribusiness Decision Making	3
or ECON 102	Introductory Microeconomic Analysis and Policy	
ANSC 322	Animal Genetics and Selection	3
or BIOL 222	Genetics	
CHEM 202	Fundamentals of Organic Chemistry I	3
or CHEM 210	Organic Chemistry I	
Select 6-8 credits from the following:		6-8
Select 3-4 credits from the following:		
MATH 21	College Algebra with Analytic Geometry with Applications I	
MATH 22	College Algebra With Analytic Geometry and Applications II	

MATH 26	Plane Trigonometry and Applications of Trigonometry
MATH 41	Trigonometry and Analytic Geometry
MATH 110	Techniques of Calculus I
MATH 140	Calculus With Analytic Geometry I
Select 2-4 credits from the following:	
CMPSC 101	Introduction to Programming
CMPSC 203	Introduction to Spreadsheets and Databases
MATH 22	College Algebra With Analytic Geometry and Applications II
MATH 111	Techniques of Calculus II
MATH 141	Calculus with Analytic Geometry II
STAT 200	Elementary Statistics
STAT 250	Introduction to Biostatistics

Additional Courses: Require a grade of C or better

Select 6-8 credits from the following:		6-8
ANSC 305	Companion Animal Nutrition	
ANSC 306	Swine Production and Management	
ANSC 308	Sheep and Goat Production and Management	
ANSC 309	Beef Cattle Production and Management	
ANSC 310	Dairy Cattle Production and Management	
ANSC 311	Poultry Production and Management	
ANSC 315	Small Animal Health and Disease	
ANSC 324	Value Determination of Meat Animals	
ANSC 327	Horse Production and Management	

Supporting Courses and Related Areas

Select 3-5 credits in communication skills courses from department list ¹

Requirements for the Option

Select an option 42-46

¹ Certain courses may double count as general education courses; consult with your adviser.

Requirements for the Option

Business and Management Option (43-45 credits)

Code	Title	Credits
Prescribed Courses		
ACCTG 211	Financial and Managerial Accounting for Decision Making	4
Additional Courses		
MICRB 106 & MICRB 107	Elementary Microbiology and Elementary Microbiology Laboratory	4-5
or MICRB 201 & MICRB 202	Introductory Microbiology and Introductory Microbiology Laboratory	
Select 3 credits from the following:		3
CHEM 101	Introductory Chemistry	
CHEM 110	Chemical Principles I	
CHEM 130	Introduction to General, Organic, and Biochemistry	
Select 3 credits from the following:		3
AGBM 102	Economics of the Food System	
BA 303	Marketing	
MKTG 301	Principles of Marketing	
Select 3 credits from the following:		3

AGBM 200	Introduction to Agricultural Business Management or MGMT 10 Survey of Management	
BA 304	Management and Organization	
MGMT 301	Basic Management Concepts	
Select 3-4 credits from the following:		3-4
ANSC 420	Animal Nutrition and Feed Technology	
ANSC 423	Comparative Physiology of Domestic Animals	
ANSC 427	Milk Secretion	
ANSC 431	Physiology of Animal Reproduction	

Supporting Courses and Related Areas

Select 23 credits from department list (at least 9 credits of business, 23 9 credits of production courses, and 5 credits of either business or production courses)¹

¹ 12 credits must be 400-level courses; students may apply 6 credits of ROTC

Science Option (42-46 credits)

Code	Title	Credits
Prescribed Courses		
ANSC 423	Comparative Physiology of Domestic Animals	3
ANSC 431	Physiology of Animal Reproduction	4
BMB 212	Elementary Biochemistry Laboratory	1
BMB 221	Applied Biochemistry	2
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
CHEM 112	Chemical Principles II	3
CHEM 113	Experimental Chemistry II	1
MICRB 201	Introductory Microbiology	3
MICRB 202	Introductory Microbiology Laboratory	2
PHYS 250	Introductory Physics I	4

Additional Courses

Select 3-5 credits from the following:		3-5
CHEM 203	Fundamentals of Organic Chemistry II	
CHEM 212 & CHEM 213	Organic Chemistry II and Laboratory in Organic Chemistry	
Select 4 credits of the following:		4
BIOL 220W	Biology: Populations and Communities	
BIOL 230W	Biology: Molecules and Cells	
BIOL 240W	Biology: Function and Development of Organisms	
Select 3 credits of the following:		3
AGRO 28	Principles of Crop Management	
ANSC 211	Introduction to Avian Biology	
ANSC 213	Introduction to Animal Biotechnology	
SOILS 101	Introductory Soil Science	

Supporting Courses and Related Areas

Select 5-7 credits of 400-level courses from department list¹ 5-7

¹ Students may apply 6 credits of ROTC.

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 (<https://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 and Inter-Domain courses do not meet this requirement.)

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

Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

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

Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

Exploration

- **GN**, may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher: 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 (<https://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.