

VETERINARY AND BIOMEDICAL SCIENCES, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Degree Requirements

For the Bachelor of Science degree in Veterinary and Biomedical Sciences, a minimum of 123 credits is required:

Requirement	Credits
General Education	45
Electives	6-10
Requirements for the Major	86-90

18 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GS 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/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/>).

Code	Title	Credits
Prescribed Courses		
CHEM 112	Chemical Principles II	3
CHEM 113	Experimental Chemistry II	1
MICRB 202	Introductory Microbiology Laboratory	2
PHYS 250	Introductory Physics I	4
PHYS 251	Introductory Physics II	4
VBSC 211	The Immune System and Disease	3
VBSC/BIOL 421	Comparative Anatomy of Vertebrates	4
<i>Prescribed Courses: Require a grade of C or better</i>		
ANSC 201	Animal Science	4
ANSC 301	Principles of Animal Nutrition	3
CHEM 110	Chemical Principles I	3
CHEM 111	Experimental Chemistry I	1
Additional Courses		
ANSC 423	Comparative Physiology of Domestic Animals	3
or BIOL 472	Human Physiology	
MICRB 201	Introductory Microbiology	3
or MICRB 201H	Introductory Microbiology	
STAT 200	Elementary Statistics	3-4
or STAT 250	Introduction to Biostatistics	
Select 3 credits from the following:		3
AGBM 101	Economic Principles of Agribusiness Decision Making	
BA 100	Introduction to Business	
ECON 14	Principles of Economics	
ECON 102	Introductory Microeconomic Analysis and Policy	
ECON 104	Introductory Macroeconomic Analysis and Policy	

Select 3-4 credits from the following: 3-4

BIOL 220W	Biology: Populations and Communities
BIOL 230W	Biology: Molecules and Cells
BIOL 240W	Biology: Function and Development of Organisms
BMB 251	Molecular and Cell Biology I

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

CHEM 202	Fundamentals of Organic Chemistry I
& CHEM 203	and Fundamentals of Organic Chemistry II
CHEM 210	Organic Chemistry I
& CHEM 212	and Organic Chemistry II
& CHEM 213	and Laboratory in Organic Chemistry

Select 6 credits from the following: 6

BMB 211	Elementary Biochemistry
& BMB 212	and Elementary Biochemistry Laboratory
& BMB 221	and Applied Biochemistry
BMB 401	General Biochemistry
& BMB 402	and General Biochemistry

Additional Courses: Require a grade of C or better

BIOL 110	Biology: Basic Concepts and Biodiversity	4
or BIOL 110H	Honors Biology: Basic Concepts and Biodiversity	
BIOL 222	Genetics	3
or BIOL 322	Genetic Analysis	
MATH 140	Calculus With Analytic Geometry I	4
or MATH 140B	Calculus and Biology I	
MATH 141	Calculus with Analytic Geometry II	4
or MATH 141B	Calculus and Biology II	
VBSC 403	Principles of Animal Disease Control	3
or VBSC 403H	Principles of Animal Disease Control	

Supporting Courses and Related Areas

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

Select 9 credits of 400-level courses from department list 9

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/students/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/>)). For more information, check the Suggested Academic Plan for your intended program.