

# ANIMAL AND VETERINARY BIOSCIENCES, B.S.

## REQUIREMENTS

### UNIVERSITY GENERAL EDUCATION REQUIREMENTS

All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (<http://guide.wisc.edu/undergraduate/#requirementsforundergraduatetext>) section of the *Guide*.

General Education	• Breadth–Humanities/Literature/Arts: 6 credits
	• Breadth–Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
	• Breadth–Social Studies: 3 credits
	• Communication Part A & Part B *
	• Ethnic Studies *
	• Quantitative Reasoning Part A & Part B *

\* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

### COLLEGE OF AGRICULTURAL AND LIFE SCIENCES REQUIREMENTS

In addition to the University General Education Requirements, all undergraduate students in CALS must satisfy a set of college and major requirements. Courses may not double count within university requirements (General Education and Breadth) or within college requirements (First-Year Seminar, International Studies, Science, and Capstone), but courses counted toward university requirements may also be used to satisfy a college and/or a major requirement; similarly, courses counted toward college requirements may also be used to satisfy a university and/or a major requirement.

### COLLEGE REQUIREMENTS FOR ALL CALS B.S. DEGREE PROGRAMS

Code	Title	Credits
Quality of Work: Students must maintain a minimum cumulative grade point average of 2.000 to remain in good standing and be eligible for graduation.		

Residency: Students must complete 30 degree credits in residence at UW–Madison after earning 86 credits toward their undergraduate degree.

First Year Seminar ( <a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSThirdYearSeminarCourses">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSThirdYearSeminarCourses</a> )	1
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International Studies ( <a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSThirdYearSeminarCourses">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSThirdYearSeminarCourses</a> )	3
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Physical Science Fundamentals	4-5
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CHEM 103	General Chemistry I
or CHEM 108	Chemistry in Our World
or CHEM 109	Advanced General Chemistry

Biological Science	5
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Additional Science (Biological, Physical, or Natural)	3
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Science Breadth (Biological, Physical, Natural, or Social)	3
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CALS Capstone Learning Experience: included in the requirements for each CALS major (see "Major Requirements") (<http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSCapstoneRequirement>)

### SUMMARY OF MAJOR REQUIREMENTS

Code	Title	Credits
<b>Major Requirements</b>		
	Mathematics and Science Foundation	19-25
	Animal & Veterinary Biosciences Core Requirements	37-38
	Capstone in Major	2-3
<b>Total Credits</b>		<b>58-66</b>

### ANIMAL & VETERINARY BIOSCIENCES MAJOR REQUIREMENTS

Code	Title	Credits
<b>Mathematics</b>		
Complete one of the following (or may be satisfied by placement exam):		3-5
MATH 112	Algebra	
MATH 114	Algebra and Trigonometry	
<b>Statistics</b>		
Complete one of the following:		3
STAT 301	Introduction to Statistical Methods	
STAT 371	Introductory Applied Statistics for the Life Sciences	
<b>Chemistry</b>		
Complete one of the following:		5-9
CHEM 103	General Chemistry I	
& CHEM 104	and General Chemistry II	
CHEM 109	Advanced General Chemistry	
<b>Biology</b>		
Complete one of the following:		5

BIOLOGY/ BOTANY/ ZOOLOGY 151	Introductory Biology	
BIOLOGY/ ZOOLOGY 101 & BIOLOGY/ ZOOLOGY 102	Animal Biology and Animal Biology Laboratory	
<b>Biochemistry</b>		
Complete one of the following:		3
BIOCHEM 301	Survey of Biochemistry	
BIOCHEM 501	Introduction to Biochemistry	
<b>Introduction to the Major</b>		
Complete the following:		4
AN SCI/ DY SCI 101	Introduction to Animal Sciences	
AN SCI/ DY SCI 102	Introduction to Animal Sciences Laboratory	
<b>Animal Science Core</b>		
Complete four courses from the following: <sup>1</sup>		11-12
AN SCI 245	Animal Welfare	
AN SCI/DY SCI/ NUTR SCI 311	Comparative Animal Nutrition	
AN SCI/ DY SCI 320	Animal Health and Disease	
AN SCI/ DY SCI 361	Introduction to Animal and Veterinary Genetics	
AN SCI/ DY SCI 373	Animal Physiology	
<b>Animal Biology Depth</b>		
Complete at least 10 credits from the following:		10
AN SCI 245	Animal Welfare <sup>1</sup>	
AN SCI/ FOOD SCI 305	Introduction to Meat Science and Technology	
AN SCI/DY SCI/ NUTR SCI 311	Comparative Animal Nutrition <sup>1</sup>	
AN SCI/ DY SCI 320	Animal Health and Disease <sup>1</sup>	
AN SCI 336	Animal Growth and Development	
AN SCI/ DY SCI 361	Introduction to Animal and Veterinary Genetics <sup>1</sup>	
AN SCI/ DY SCI 362	Veterinary Genetics	
or AN SCI/ DY SCI 363	Principles of Animal Breeding	
AN SCI 366	Concepts in Genomics	
AN SCI/ DY SCI 373	Animal Physiology <sup>1</sup>	
DY SCI 378	Lactation Physiology	
AN SCI/ DY SCI 414	Ruminant Nutrition & Metabolism	
AN SCI 415	Application of Monogastric Nutrition Principles	
AN SCI 420	Microbiomes of Animal Systems	
AN SCI/ DY SCI 434	Reproductive Physiology	

**Major Breadth**

Complete at least 12 credits from the following:		12
AN SCI 200	The Biology and Appreciation of Companion Animals	
DY SCI 233	Dairy Herd Management I	
DY SCI 234	Dairy Herd Management II	
AN SCI/BSE 344	Digital Technologies for Animal Monitoring	
AN SCI 399	Coordinative Internship/ Cooperative Education (Footnote 2 applies to both AN SCI 399 and 699) <sup>2</sup>	
or AN SCI 699	Special Problems	
A A E 422	Food Systems and Supply Chains	
AN SCI 431	Beef Cattle Production	
AN SCI 432	Swine Production	
AN SCI/ FOOD SCI 515	Commercial Meat Processing	
DY SCI 534	Reproductive Management of Dairy Cattle	
BIOLOGY/ BOTANY/ ZOOLOGY 152	Introductory Biology	
or BIOLOGY/ BOTANY 130	General Botany	
CHEM 343	Organic Chemistry I	
PHYSICS 103	General Physics	
MICROBIO 303	Biology of Microorganisms	
M M & I/ENTOM/ PATH-BIO/ ZOOLOGY 350	Parasitology	
<b>Capstone in Major</b>		
Complete one of the following:		2-3
AN SCI 435	Animal Sciences Proseminar	
DY SCI 535	Dairy Farm Management Practicum	

**Total Credits** **58-66**

1

Courses cannot count for both Animal Science Core and Depth.

2

Maximum of 3 credits.

**HONORS IN THE MAJOR**

Students admitted to the university and to the College of Agricultural and Life Sciences are invited to apply to be considered for admission to the CALS Honors Program.

**Admission Criteria for New First-Year Students:**

- Complete program application including essay questions

**Admission Criteria for Transfer and Continuing UW-Madison Students:**

- UW-Madison cumulative GPA of at least 3.25
- Complete program application including essay questions

## HOW TO APPLY

The application is available on the CALS Honors Program website (<https://cals.wisc.edu/academics/undergraduate/current-students/honors-program/>). Applications are accepted at any time.

New first-year students with accepted applications will automatically be enrolled in Honors in Research. It is possible to switch to Honors in the Major in the student's first semester on campus after receiving approval from the advisor for that major. Transfer and continuing students may apply directly to Honors in Research or Honors in the Major (after approval from the major advisor).

## REQUIREMENTS

All CALS Honors programs have the following requirements:

- Earn at least a cumulative 3.25 GPA at UW-Madison (some programs have higher requirements)
- Complete the program-specific requirements listed below
- Submit completed thesis documentation to CALS Academic Affairs

## REQUIREMENTS

To earn Honors in the Major, students are required to take at least 20 honors credits. In addition, students must take AN SCI 681 (<https://guide.wisc.edu/search/?P=AN%20SCI%20681>) Senior Honor Thesis and AN SCI 682 (<https://guide.wisc.edu/search/?P=AN%20SCI%20682>) Senior Honors Thesis when completing their thesis project; please see the Honors Program page (<https://cals.wisc.edu/academics/undergraduate/current-students/honors-program/>) for more information.

## UNIVERSITY DEGREE REQUIREMENTS

**Total Degree** To receive a bachelor's degree from UW-Madison, students must earn a minimum of 120 degree credits. The requirements for some programs may exceed 120 degree credits. Students should consult with their college or department advisor for information on specific credit requirements.

**Residency** Degree candidates are required to earn a minimum of 30 credits in residence at UW-Madison. "In residence" means on the UW-Madison campus with an undergraduate degree classification. "In residence" credit also includes UW-Madison courses offered in distance or online formats and credits earned in UW-Madison Study Abroad/Study Away programs.

**Quality of Work** Undergraduate students must maintain the minimum grade point average specified by the school, college, or academic program to remain in good academic standing. Students whose academic performance drops below these minimum thresholds will be placed on academic probation.