ANIMAL AND VETERINARY BIOSCIENCES, BS

REQUIREMENTS

UNIVERSITY REQUIREMENTS

All undergraduate students must complete both the following Core General Education (Core GenEd) and University Degree and Quality of Work requirements. The requirements below apply to students whose first term at UW-Madison or whose earliest post-high school college attendance at any institution is Summer 2026 or later.

Students whose first term at UW-Madison or whose earliest post-high school college attendance at any institution occurred before Summer 2026 should refer to the archived Guide (https://guide.wisc.edu/archive/) for the requirements that apply to them.

CORE GENERAL EDUCATION (CORE GENED) REQUIREMENTS

Civics & Perspectives	3 credits of Civics & Perspectives coursework.
Communicatio & Literacy	6 credits of Communication & Literacy coursework. This requirement may be partially satisfied by a qualifying placement test score. More information: https://go.wisc.edu/qualifyingenglishplacement (https://go.wisc.edu/qualifyingenglishplacement/)
Humanities & Arts	6 credits of Humanities & Arts coursework.
Mathematics & Quantitative Reasoning	6 credits of Mathematics & Quantitative Reasoning coursework. This requirement may be partially satisfied by a qualifying placement test score. More information: https://go.wisc.edu/qualifyingmathplacement (https://go.wisc.edu/qualifyingmathplacement/)
Natural Science & Wellness	Complete both: • 6 credits of Natural Science & Wellness or Natural Science & Wellness + Laboratory coursework. • one course must be in Natural Science & Wellness + Laboratory coursework.
Social & Behavioral Science	3 credits of Social & Behavioral Science coursework.
Total Credits	30 credits.

For more information see the policy (https://policy.wisc.edu/library/UW-1095/).

UNIVERSITY DEGREE AND QUALITY OF WORK REQUIREMENTS

All undergraduate degree recipients must complete the following minimum requirements. Requirements for some programs will exceed these requirements; see program requirements for additional information.

Total Degree	120 degree credits.
Residency	Complete 30 credits in residence. A course is considered "in residence" if it is taken when in undergraduate degree-seeking status and: • is offered by UW-Madison and completed on the UW-Madison campus or at an approved off-site location, or • is offered by UW-Madison in an online or distance format, or is completed during participation in a UW-Madison study abroad/study away program.
Quality of Work	Achieve at least the minimum grade point average specified by the school, college, and/or academic program.
Math	Demonstrate minimal mathematics competence by: • placing above MATH 96, or, • successfully completing MATH 96, or • successfully completing a more advanced mathematics course such as MATH 112, MATH 113, MATH 114, MATH 141, MATH 211, or MATH 221.
English Language	If required to take the UW-Madison English as a Second Language Assessment Test (MSN-ESLAT), demonstrate minimal English language competence by: • earning credit for ESL 118, or • achieving a qualifying MSN-ESLAT placement test score.
Language	Complete one: • 2 high school units of a single language other than English, or • one course with the second semester Language designation.
Major Declaration	Declare and complete the requirements for at least one major.

COLLEGE OF AGRICULTURAL AND LIFE SCIENCES REQUIREMENTS

CALS GRADUATION REQUIREMENTS

Cumulative Credits	• Students must earn 120 degree credits. • Students declared in Biological Systems Engineering BS must earn 125 degree 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.

In addition to the university's general requirements, all undergraduate students in CALS must satisfy a set of college and major requirements. Courses may not double count within university requirements, CALS college requirements, or major requirements. A course may count toward university requirements and a college and/or a major requirement; similarly, a course counted toward college requirements may also be used to satisfy a university and/or a major requirement.

CALS COLLEGE REQUIREMENTS

CALS First-Year Seminar	1 credit. See the full list of eligible courses below or use this link: https://go.wisc.edu/calsfirstyearseminars (https://go.wisc.edu/calsfirstyearseminars/)
Ethnic Studies	3 credits with the Ethnic Studies designation.
Communication A	Complete either: • 1 course with the Communication A designation, or • satisfaction of Communication A based on UW Placement Test.
Quantitative Reasoning A	Complete either: • 1 course with the Quantitative Reasoning A designation, or • satisfaction of Quantitative Reasoning A based on UW Placement Test.
Introductory Chemistry	Complete one: • CHEM 103 • CHEM 108 • CHEM 109
CALS International Comparisons	3 credits. See the full list of eligible courses below or use this link: https://go.wisc.edu/calsinternationalcomparisons (https://go.wisc.edu/calsinternationalcomparisons/)
Communication B	1 course with the Communication B designation.
Quantitative Reasoning B	1 course with the Quantitative Reasoning B designation.
Biological Science	5 credits with the Biological Science designation.
Additional Science	3 credits with the Biological, Physical, or Natural Science designations.
Science Breadth	3 credits with the Biological, Physical, Natural, or Social Science designations.
Humanities	6 credits with the Humanities or Literature designation.
Social Sciences	3 credits with the Social Sciences designation.
Capstone Learning Experience	Each major articulates the required capstone learning experience.

CALS First-Year Seminars

Code	Title	Credits
AN SCI 135	Grand Challenges and Career Opportunities in Animal and Dairy Sciences	1
BIOCHEM 100	Biochemistry First-Year Seminar	1
COUN PSY 125	The Wisconsin Experience Seminar	1
FW ECOL 101	Orientation to Wildlife Ecology	1
FW ECOL 105	Environment, Pollutants, and You	3
GENETICS 155	Freshman Seminar in Genetics	1
INTEGSCI 100	Exploring Biology	2
INTEGSCI 140	Exploring Service in STEM	1
INTER-AG 155	Issues in Agriculture, Environment, and Life Sciences	1
LSC 155	First-Year Seminar in Science Communication	1
MICROBIO 150	Microbiomes and Microbiology - First-Year Seminar	1
PLANTSCI/ AGROECOL 100	First-Year Seminar in Agroecology and Plant Science	1
PL PATH 155	Food Frontlines: Security, Sustainability, and Survival	1
SOIL SCI 155	First-year Seminar in Soil and Environmental Sciences	1
Learning Community/Student Group Courses		
The following learning community/student group courses are approved as CALS First-Year Seminars.		
COUN PSY 117	PEOPLE First Year Seminar	1
INTEGSCI 110	BioHouse Seminar: Biology for the 21st Century	1
INTER-AG 117	GreenHouse Roots Seminar	1
INTER-AG 140	CALS QuickStart: Foundations	1
INTER-AG 175	WISE Seminar	1

CALS International Comparisons

Code	Title	Credits
The 3 credit requirement may be fulfilled as either a stand-alone 3 credit course or as a set of courses as listed below.		
A A E/ENVIR ST 244	The Environment and the Global Economy	4
A A E 319	The International Agricultural Economy	3
A A E/NUTR SCI 350	World Hunger and Malnutrition	3
A A E 352	Global Health: Economics, Natural Systems, and Policy (approved for enrollments Summer 2021 and later)	4
A A E/INTL ST 373	Globalization, Poverty and Development	3
A A E/INTL ST 374	The Growth and Development of Nations in the Global Economy	3
A A E/ECON 473	Economic Growth and Development in Southeast Asia	3
A A E/ECON 474	Economic Problems of Developing Areas	3
A A E/ECON/INTL BUS 462	Latin American Economic Development	3
A A E/ECON 477	Agricultural and Economic Development in Africa	3
AGROECOL 377	Global Food Production and Health	3
AN SCI/DY SCI 370	Livestock Production and Health in Agricultural Development	3
ASIAN/HISTORY/ POLI SCI 255	Introduction to East Asian Civilizations (approved for enrollments Summer 2021 and later)	3-4
CE SOC/SOC 341	Labor in Global Food Systems (approved for enrollments Summer 2020 and later)	3
CE SOC/ENVIR ST/ SOC 540	Sociology of International Development, Environment, and Sustainability	3

CSCS 500	Global Health and Communities: From Research to Praxis	3
DY SCI 471	Food Production Systems and Sustainability	3
ENTOM/ENVIR ST 201	Insects and Human Culture-a Survey Course in Entomology	3
ENTOM/ENVIR ST 205	Our Planet, Our Health (approved for enrollments Fall 2026 and later)	3
ENTOM/ZOOLOGY 371	Medical Entomology: Biology of Vector and Vector-borne Diseases	3
FW ECOL/ENVIR ST 100	Forests of the World (approved for enrollments Summer 2020 and later)	3
FW ECOL/ENVIR ST/ ZOOLOGY 360	Extinction of Species	3
LSC 251	Science, Media and Society (approved for enrollments Summer 2020 and later)	3
PL PATH/BOTANY 123	Plants, Parasites, and People	3
PL PATH 311	Global Food Security	3
PLANTSCI 370	World Vegetable Crops	3
The following study abroad courses fulfill the CALS International Comparisons requirement. Only the specific course numbers and titles listed, including Topics titles (in parentheses), are approved to meet the CALS International Comparisons requirement.		
BIOCHEM 307	Study Abroad: Introduction to Biological Sciences Research in Japan (approved for enrollments Fall 2026 and later)	3
NUTR SCI/INTER-AG 421	Global Health Field Experience (UW Mobile Clinics and Health Care in Uganda)	3
INTER-AG 321 & INTER-AG/NUTR SCI 421	Study Abroad Pre-Departure Seminar and Global Health Field Experience (UW Global Health Community Health and Asset-Based Community Development in Sri Lanka)	3
INTER-AG 321 & INTER-AG/NUTR SCI 421	Study Abroad Pre-Departure Seminar and Global Health Field Experience (UW Agriculture, Health and Nutrition in Uganda)	3
INTER-AG/NUTR SCI 421	Global Health Field Experience (UW Health, Education and Tanzanian Culture)	3

SUMMARY OF MAJOR REQUIREMENTS

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

ANIMAL & VETERINARY BIOSCIENCES MAJOR REQUIREMENTS

Code	Title	Credits
Mathematics		
Complete one of the following (or may be satisfied by placement exam):		3-5
MATH 112	College Algebra	
MATH 114	Precalculus	
MATH 221	Calculus and Analytic Geometry 1	
Statistics		
Complete one of the following:		3
STAT 301	Introduction to Statistical Methods	
STAT 371	Introductory Applied Statistics for the Life Sciences	
Chemistry		
Complete one of the following:		5-9
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	
CHEM 109	Advanced General Chemistry	
Biology		
Complete one of the following:		5
BIOLOGY/ BOTANY/ ZOOLOGY 151	Introductory Biology	
BIOLOGY/ ZOOLOGY 101 & BIOLOGY/ ZOOLOGY 102	Animal Biology and Animal Biology Laboratory	
Biochemistry		
Complete one of the following:		3
BIOCHEM 301	Survey of Biochemistry	
BIOCHEM 501	Introduction to Biochemistry	
Introduction to the Major		
Complete the following:		4
AN SCI/ DY SCI 101	Introduction to Animal Sciences	
AN SCI/ DY SCI 102	Introduction to Animal Sciences Laboratory	
Animal Science Core		
Animal Genetics: complete one course		*3*
AN SCI 361	Breeding and Genetics of Livestock and Companion Animals	
AN SCI 362	Veterinary Genetics	
AN SCI 366	Concepts in Genomics	
Animal Anatomy and Physiology: complete one course		*3-4*
AN SCI/ FOOD SCI 305	Introduction to Meat Science and Technology	
AN SCI/ DY SCI 373	Animal Physiology	

DY SCI 378	Lactation Physiology	
AN SCI/ DY SCI 434	Reproductive Physiology	
Animal Nutrition and Growth: complete one course		*3*
AN SCI/DY SCI/ NUTR SCI 311	Comparative Animal Nutrition	
AN SCI 336	Animal Growth and Development	
AN SCI/ DY SCI 414	Ruminant Nutrition & Metabolism	
AN SCI 415	Application of Monogastric Nutrition Principles	
Animal Health and Welfare: complete one course		*3*
AN SCI 245	Animal Welfare	
AN SCI/ DY SCI 320	Animal Health and Disease	
AN SCI 324	Applied Companion Animal Behavior and Learning	
AN SCI 420	Microbiomes of Animal Systems	
Animal Science Depth		
Complete a minimum of 9 additional credits from the following courses. Courses cannot be used to meet both Core and Depth requirements.		9
AN SCI 245	Animal Welfare	
AN SCI/ FOOD SCI 305	Introduction to Meat Science and Technology	
AN SCI/DY SCI/ NUTR SCI 311	Comparative Animal Nutrition	
AN SCI/ DY SCI 320	Animal Health and Disease	
AN SCI 324	Applied Companion Animal Behavior and Learning	
AN SCI 336	Animal Growth and Development	
AN SCI 361	Breeding and Genetics of Livestock and Companion Animals	
AN SCI 362	Veterinary Genetics	
AN SCI 366	Concepts in Genomics	
AN SCI/ DY SCI 373	Animal Physiology	
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 140	Introduction to Poultry: From Backyard Chickens to Commercial Production	
AN SCI 200	The Biology and Appreciation of Companion Animals	
AN SCI 210	You and Your Food: Farm to Table	
AN SCI 232	Care and Management of Dogs and Cats	
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 (A maximum of 3 credits combined of AN SCI 399 and AN SCI 699 can count toward major breadth)	
AN SCI 699	Special Problems (A maximum of 3 credits combined of AN SCI 399 and AN SCI 699 can count toward major breadth)	
AN SCI 400	Study Abroad in Animal Sciences (A maximum of 3 credits can count towards Major Breadth)	
DY SCI 471	Food Production Systems and Sustainability	
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	
Capstone in Major		
Complete one of the following:		2-3
AN SCI 435	Animal Sciences Proseminar	
DY SCI 535	Dairy Farm Management Practicum	
Total Credits		**58-66**

HONORS IN THE MAJOR

ADMISSIONS CRITERIA

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.

New First-Year Students

- Complete program application including essay questions

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 Senior Honor Thesis and AN SCI 682 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.