

ZOOLOGY, BS

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/#requirementsforundergraduatestudytext>) 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 LETTERS & SCIENCE DEGREE REQUIREMENTS: BACHELOR OF SCIENCE (BS)

Students pursuing a Bachelor of Science degree in the College of Letters & Science must complete all of the requirements below. The College of Letters & Science allows this major to be paired with either the Bachelor of Arts or the Bachelor of Science degree requirements.

BACHELOR OF SCIENCE DEGREE REQUIREMENTS

Mathematics Complete two courses of 3+ credits at the Intermediate or Advanced level in MATH, COMP SCI, or STAT subjects. A maximum of one course in each of COMP SCI and STAT subjects counts toward this requirement.

Language Complete the third unit of a language other than English.

L&S Breadth Complete:

- 12 credits of Humanities, which must include at least 6 credits of Literature; and
- 12 credits of Social Science; and
- 12 credits of Natural Science, which must include 6 credits of Biological Science and 6 credits of Physical Science.

Liberal Arts and Science Coursework	Complete at least 108 credits.
Depth of Intermediate/Advanced Coursework	Complete at least 60 credits at the Intermediate or Advanced level.
Major	Declare and complete at least one major.
Total Credits	Complete at least 120 credits.
UW–Madison Experience	Complete both: <ul style="list-style-type: none"> • 30 credits in residence, overall, and • 30 credits in residence after the 86th credit.
Quality of Work	<ul style="list-style-type: none"> • 2.000 in all coursework at UW–Madison • 2.000 in Intermediate/Advanced level coursework at UW–Madison

NON-L&S STUDENTS PURSUING AN L&S MAJOR

Non–L&S students who have permission from their school/college to pursue an additional major within L&S only need to fulfill the major requirements. They do not need to complete the L&S Degree Requirements above.

REQUIREMENTS FOR THE MAJOR MATH, CHEMISTRY & PHYSICS

Code	Title	Credits
Math—complete one:		4–10
MATH 112 & MATH 113	Algebra and Trigonometry	
MATH 114	Algebra and Trigonometry	
MATH 171 & MATH 217	Calculus with Algebra and Trigonometry I and Calculus with Algebra and Trigonometry II	
MATH 211	Survey of Calculus	
Chemistry—complete one:		5–9
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	
CHEM 109	Advanced General Chemistry	
Physics—complete one:		8–10
PHYSICS 103 & PHYSICS 104	General Physics and General Physics	
PHYSICS 201 & PHYSICS 202	General Physics and General Physics	
PHYSICS 207 & PHYSICS 208	General Physics and General Physics	
Total Credits		17–29

BIOLOGY AND ZOOLOGY

Complete 30 credits from the sections below.

Introductory Biology

Code	Title	Credits
Option 1: Introductory Biology		10
ZOOLOGY/ BIOLOGY/ BOTANY 151 & ZOOLOGY/ BIOLOGY/ BOTANY 152	Introductory Biology and Introductory Biology	
Option 2: BIOCORE—complete both:		10
BIOCORE 381 & BIOCORE 382	Evolution, Ecology, and Genetics and Evolution, Ecology, and Genetics Laboratory	
BIOCORE 383 & BIOCORE 384	Cellular Biology and Cellular Biology Laboratory	
Option 3: Animal Biology¹		5
ZOOLOGY/ BIOLOGY 101 & ZOOLOGY/ BIOLOGY 102	Animal Biology and Animal Biology Laboratory	
Total Credits		5-10

¹ BOTANY/BIOLOGY 130 is recommended, but not required for students pursuing Option 3 (Animal Biology).

Electives

Code	Title	Credits
ZOOLOGY 299	Directed Studies in Zoology	
ZOOLOGY 300	Invertebrate Biology and Evolution	
ZOOLOGY 301	Invertebrate Biology and Evolution Lab	
ZOOLOGY/ ENTOM 302	Introduction to Entomology	
ZOOLOGY 303	Aquatic Invertebrate Biology	
ZOOLOGY 304	Marine Biology	
ZOOLOGY/ ENVIR ST 315	Limnology—Conservation of Aquatic Resources	
ZOOLOGY 316	Laboratory for Limnology— Conservation of Aquatic Resources	
ZOOLOGY 320	Field Marine Biology	
ZOOLOGY/ F&W ECOL 335	Human/Animal Relationships: Biological and Philosophical Issues	
ZOOLOGY/ ENTOM/M M & I/ PATH-BIO 350	Parasitology	
ZOOLOGY/ ENVIR ST/ F&W ECOL 360	Extinction of Species	
ZOOLOGY 370	General Molecular Biology	
ZOOLOGY/ ENTOM 371	Medical Entomology	
ZOOLOGY 400	Topics in Biology	
ZOOLOGY 405	Introduction to Museum Studies in the Natural Sciences	

ZOOLOGY/ ANTHRO/ BOTANY 410	Evolutionary Biology
ZOOLOGY 415	Genetics of Human History
ZOOLOGY 425	Behavioral Ecology
ZOOLOGY 430	Comparative Anatomy of Vertebrates
ZOOLOGY/ BOTANY 450	Midwestern Ecological Issues: A Case Study Approach
ZOOLOGY/ BOTANY/ F&W ECOL 460	General Ecology
ZOOLOGY 470	Introduction to Animal Development
ZOOLOGY 504	Modeling Animal Landscapes
ZOOLOGY/ BOTANY/ ENTOM 473	Plant-Insect Interactions
ZOOLOGY 500	Undergraduate Neurobiology Seminar
ZOOLOGY/ ENVIR ST 510	Ecology of Fishes
ZOOLOGY/ AN SCI/ F&W ECOL 520	Ornithology
ZOOLOGY/ ENVIR ST 511	Ecology of Fishes Lab
ZOOLOGY/ AN SCI/ F&W ECOL 521	Birds of Southern Wisconsin
ZOOLOGY/ PSYCH 523	Neurobiology
ZOOLOGY 525	Tropical Herpetology
ZOOLOGY/ GEOSCI 541	Paleobiology
ZOOLOGY/ GEOSCI 542	Invertebrate Paleontology
ZOOLOGY 555	Laboratory in Developmental Biology
ZOOLOGY/ F&W ECOL/ LAND ARC 565	Principles of Landscape Ecology
ZOOLOGY 570	Cell Biology
ZOOLOGY 603	Endocrinology
ZOOLOGY 604	Computer-based Gene and Disease/Disorder Research Lab
ZOOLOGY 611	Comparative and Evolutionary Physiology
ZOOLOGY 612	Comparative Physiology Laboratory
ZOOLOGY/ NEURODPT 616	Lab Course in Neurobiology and Behavior
ZOOLOGY/ ANTHRO/NTP/ PSYCH 619	Biology of Mind
ZOOLOGY/ NTP 620	Neuroethology Seminar

ZOOLOGY/ ENTOM/ GENETICS 624	Molecular Ecology
ZOOLOGY 625	Development of the Nervous System
ZOOLOGY/ BOTANY/ ENVIR ST/ F&W ECOL 651	Conservation Biology
ZOOLOGY 655	Modeling Neurodevelopmental Disease
ZOOLOGY/ F&W ECOL 660	Climate Change Ecology
ZOOLOGY/ BOTANY/ F&W ECOL 672	Historical Ecology
ZOOLOGY/ NEURODPT/ PSYCH 674	Behavioral Neuroendocrinology Seminar
ZOOLOGY 677	Internship in Ecology
ZOOLOGY 681 & ZOOLOGY 682	Senior Honors Thesis and Senior Honors Thesis
ZOOLOGY 691 & ZOOLOGY 692	Senior Thesis and Senior Thesis
ZOOLOGY 698	Directed Study
ZOOLOGY 699	Directed Studies in Zoology
ANAT&PHY 335	Physiology ¹
ANAT&PHY 338	Human Anatomy Laboratory
ANTHRO 458	Primate Behavioral Ecology
ANTHRO 668	Primate Conservation
BIOCHEM 501	Introduction to Biochemistry
BIOCHEM 507	General Biochemistry I
BOTANY 330	Algae
ENTOM 331	Taxonomy of Mature Insects
ENTOM 450	Basic and Applied Insect Ecology
ENVIR ST/ LAND ARC 361	Wetlands Ecology
ENVIR ST 375	Field Ecology Workshop
F&W ECOL 306	Terrestrial Vertebrates: Life History and Ecology
F&W ECOL/ SURG SCI 548	Diseases of Wildlife
F&W ECOL/ ENTOM/ PL PATH/ SOIL SCI 606	Colloquium in Environmental Toxicology
GENETICS 466	Principles of Genetics
GENETICS 545	Genetics Laboratory
MICROBIO 303	Biology of Microorganisms
MICROBIO 304	Biology of Microorganisms Laboratory
MICROBIO 345	Introduction to Disease Biology
M M & I 341	Immunology
M M & I/PATH- BIO 528	Immunology
PSYCH 449	Animal Behavior

PSYCH 450 Primate Psychology: Insights into Human Behavior

PSYCH 454 Behavioral Neuroscience

PSYCH 513 Hormones, Brain, and Behavior

Total Credits 20-25

A maximum of 6 credits of approved non-ZOOLOGY subject courses count toward the 30 credits required for the major. Students can take ZOOLOGY/BIOLOGY 101 Animal Biology and ZOOLOGY/BIOLOGY 102 Animal Biology Laboratory for the Introductory Biology requirement is recommended for students who complete this sequence.

¹ Only 3 credits of ANAT&PHY 335 Physiology count toward the 6 credits of approved non-ZOOLOGY subject courses.

RESIDENCE AND QUALITY OF WORK

- 2.000 GPA in all ZOOLOGY and major courses
- 2.000 GPA on 15 Upper Level major credits, taken in Residence¹
- 15 credits in ZOOLOGY, or courses that count for the major, taken on the UW-Madison campus

¹ ZOOLOGY 299–699, intermediate/advanced BIOCORE, and courses that count toward the major that have an intermediate/advanced designation are considered Upper Level in the major.

HONORS IN THE ZOOLOGY MAJOR

To earn Honors in the Major in Zoology, students must satisfy both the requirements for the major (above) and the following additional requirements:

- Earn a 3.300 University GPA
- Earn a 3.300 GPA in all courses that count toward the major
- Complete 12 credits, taken for Honors, with individual grades of B or better. Select 6 credits from ZOOLOGY 300–680 or approved non-ZOOLOGY subject courses (above).
- Complete ZOOLOGY 681 and ZOOLOGY 682, for a total of 6 credits.¹

¹ A written thesis proposal must be approved by the thesis mentor and a department advisor. While most theses are completed during the fall and spring of a student's senior year, other combinations of terms are possible. More information about the proposal process, timing, and grading of a thesis can be found on the Department of Integrative Biology website.

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.