

# WILDLIFE BIOLOGY AND CONSERVATION

College of Natural Science and Mathematics  
Department of Biology and Wildlife  
907-474-7671  
www.bw.uaf.edu

## BS Degree

Minimum Requirements for Degree: 120 credits

The undergraduate wildlife program provides basic education and training. This degree is designed for students whose objective is to accomplish the research needed to provide additional information on wild animal populations, their habitat and habitat-animal relationships. This degree is also for students whose primary interests involve interpreting, applying or disseminating research findings, rather than their acquisition. A wildlife BS degree is appropriate for students contemplating careers in wildlife agency administration, in developing and implementing wildlife management plans and in public information and education. The curriculum provides a solid foundation for graduate study and meets requirement for certification by The Wildlife Society.

The geographic location of the university is particularly advantageous for the study of wildlife biology. Spruce forest, aspen-birch forest, alpine tundra, bogs and several types of aquatic habitats are within easy reach. Studies can be made in many other habitats ranging from the dense forests of southeastern Alaska to arctic tundra.

Adequate study collections of plants and animals are available, and a 2,000-acre study area is near the campus. Wildlife biology students have ample opportunity for close association with the personnel of the Alaska Cooperative Fish and Wildlife Research Unit, Institute of Arctic Biology and several local offices of the federal and state conservation agencies. These agencies often provide support for graduate student projects, and program faculty usually hire a number of students for summer fieldwork. Thus, an unusually good opportunity is available for students to gain experience and to make job connections.

## Major — BS Degree

1. Complete the general university requirements. (See page 129. As part of the core curriculum requirements, complete COMM F141X.)
2. Complete the BS degree requirements (page 134).
3. Complete the following program (major) requirements:\*

### a. Complete the following:

BIOL F115X—Fundamentals of Biology I***	4
BIOL F116X—Fundamentals of Biology II***	4
BIOL F239—Introduction to Plant Biology	4
BIOL F260—Principles of Genetics	4
BIOL F310—Animal Physiology	4
BIOL F317—Comparative Anatomy of Vertebrates	4
BIOL F331—Systematic Botany (4)	
or BIOL F488—Arctic Vegetation Ecology: Geobotany	3
BIOL F371—Principles of Ecology	4
ENGL F314W,O/2—Technical Writing (3)	
or ENGL F414W—Research Writing (3)	3
WLF F101—Survey of Wildlife Science	1.5
WLF F301—Design of Wildlife Studies	3
WLF F322W—Principles and Techniques of Wildlife Management	3
WLF F410—Wildlife Populations and Their Management	3
WLF F460O/2—Wildlife Nutrition	4

### b. Complete at least one of the following:

BIOL F471—Population Ecology	3
WLF F305—Wildlife Diseases	3
WLF F433—Conservation Genetics	3
WLF F469O—Landscape Ecology and Wildlife Habitat	3

- Complete the following:
 

CHEM F105X—General Chemistry**	4
CHEM F106X—General Chemistry**	4
MATH F200X—Calculus (4)**	
or MATH F272X—Calculus for Life Sciences (3)**	3–4
PHYS F103X—College Physics (4)	
or GEOS F101X—The Dynamics of Earth (4)	
or NRM F380W—Soils and the Environment (3)	3–4
STAT F200X—Elementary Probability and Statistics (3)***	
or STAT F300—Statistics (3)***	3
STAT F401—Regression and Analysis of Variance***	4
- Complete at least one from each of the following pairs:
 

WLF F420O—Ecology and Management of Birds (3)	
or BIOL F426W,O/2 Ornithology (3)	3
WLF F421—Ecology and Management of Large Mammals (3)	
or BIOL F425—Mammalogy (3)	3
- Complete two of the following:
 

NRM F204—Public Lands Law and Policy	3
ECON F235—Introduction to Natural Resources Economics	3
NRM F407—Environmental Law	3
HIST F411—Environmental History	3
PS F447—Environmental Politics	3
- Complete at least one additional course at the F300 level or higher (3 or 4 credits) in biology, wildlife biology, fisheries or natural resources management.\*
 

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## 4. Minimum credits required

\* Students must earn a C grade or better in each course.

\*\* Satisfies a core requirement.

\*\*\* Satisfies a BS degree requirement.

Note: BS degree candidates are strongly urged to obtain work experience in wildlife-related positions with public resource agencies or private firms. Faculty members can help students contact potential employers.

## Requirements for biology teachers (grades 7–12):\*

1. Complete all the requirements of the wildlife biology BS degree.
  2. All prospective biology teachers must complete the following:
 

BIOL F342—Microbiology	4
BIOL F481—Principles of Evolution	4
BIOL F303—Principles of Metabolism and Biochemistry (4)	
or CHEM F321 and CHEM F322—Organic Chemistry (7)	4–7
  3. All prospective science teachers must complete the following:
 

PHIL F481—Philosophy of Science (3)	3
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- \* We strongly recommend that prospective secondary science teachers seek advising from the UAF School of Education early in your undergraduate degree program, so that you can be appropriately advised of the State of Alaska requirements for teacher licensure. You will apply for admission to the UAF School of Education's postbaccalaureate teacher preparation program, a one-year intensive program, during your senior year. Above requirements apply to all candidates who apply to the UAF School of Education Spring 2006 or later for licensure in biology.

## Minor\*

1. Complete the following:
 

WLF F301—Design of Wildlife Studies	3
WLF F410—Wildlife Populations and their Management	3
WLF F460O/2—Wildlife Nutrition	4
Approved BIOL and WLF electives*	6
  2. Minimum credits required
- \* Only biology or wildlife electives that are not required for the student's major.
- Note: Prerequisites for required courses include BIOL F115X – F116X, BIOL F371, BIOL F310, STAT F200X or F300, and WLF F322W. Depending upon a student's major, some of these prerequisites may satisfy the 6 elective credits in biology and wildlife required for this minor.

# Baccalaureate Core Requirements

## Communication . . . . . 9 Credits

- ENGL F111X—Introduction to Academic Writing.....(3)  
*ENGL F190H may be substituted.*

Complete one of the following:

- ENGL F211X—Academic Writing about Literature.....(3)
- ENGL F213X—Academic Writing about the Social and Natural Sciences.....(3)

Complete one of the following:

- COMM F131X—Fundamentals of Oral Communication: Group Context.....(3)
- COMM F141X—Fundamentals of Oral Communication: Public Context.....(3)

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## Perspectives on the Human Condition . . . . . 18 Credits

Complete all of the following four courses:

- ANTH F100X/SOC F100X—Individual, Society and Culture.....(3)
- ECON F100X or PS F100X—Political Economy.....(3)
- HIST F100X—Modern World History.....(3)
- ENGL/FL F200X—World Literature.....(3)

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Complete one of the following three courses:

- ART/MUS/THR F200X—Aesthetic Appreciation: Interrelationship of Art, Drama and Music.....(3)
- HUM F201X—Unity in the Arts.....(3)
- ANS F202X—Aesthetic Appreciation of Alaska Native Performance.....(3)

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Complete one of the following six courses:

- BA F323X—Business Ethics.....(3)
- COMM F300X—Communicating Ethics.....(3)
- JUST F300X—Ethics and Justice.....(3)
- NRM F303X—Environmental Ethics and Actions.....(3)
- PS F300X—Ethics and Society.....(3)
- PHIL F322X—Ethics.....(3)

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Or complete 12 credits from the above courses plus one of the following:

- Two semester-length courses in a single Alaska Native language or other non-English language
- Three semester-length courses (9 credits) in American Sign Language taken at the university level.

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## Mathematics . . . . . 3 Credits

Complete one of the following:

- MATH F103X—Concepts and Contemporary Applications of Mathematics.....(3)
  - MATH F107X—Functions for Calculus\*.....(4)
  - MATH F161X—Algebra for Business and Economics\*\*.....(3)
  - STAT F200X—Elementary Probability and Statistics.....(3)
- \* No credit may be earned for more than one of MATH F107X or F161X.

Or complete one of the following\*:

- MATH F200X—Calculus I\*\*.....(4)
- MATH F201X—Calculus II.....(4)
- MATH F202X—Calculus III.....(4)
- MATH F262X—Calculus for Business and Economics.....(4)
- MATH F272X—Calculus for Life Sciences.....(4)

\* Or any math course having one of these as a prerequisite

\*\* No credit may be earned for more than one of Math F200X, F262X or F272.

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## Natural Sciences . . . . . 8 Credits

Complete any two (4-credit) courses.

- ATM F101X—Weather and Climate of Alaska.....(4)
- BIOL F100X—Human Biology.....(4)
- BIOL F101X—Biology of Sex.....(4)
- BIOL F103X—Biology and Society.....(4)
- BIOL F104X—Natural History.....(4)
- BIOL F115X—Fundamentals of Biology I.....(4)
- BIOL F116X—Fundamentals of Biology II.....(4)
- BIOL F120X—Introduction to Human Nutrition.....(4)
- BIOL F213X—Human Anatomy and Physiology I.....(4)
- BIOL F214X—Human Anatomy and Physiology II.....(4)
- CHEM F100X—Chemistry in Complex Systems.....(4)
- CHEM F103X—Basic General Chemistry.....(4)
- CHEM F104X—Beginnings in Biochemistry.....(4)
- CHEM F105X—General Chemistry.....(4)
- CHEM F106X—General Chemistry.....(4)
- GEOG F111X—Earth and Environment: Elements of Physical Geography.....(4)
- GEOS F100X—Introduction to Earth Science.....(4)
- GEOS F101X—The Dynamic Earth.....(4)
- GEOS F106X—Life and the Age of Dinosaurs.....(4)
- GEOS F112X—History of Earth and Life.....(4)
- GEOS F120X—Glaciers, Earthquakes and Volcanoes.....(4)
- GEOS F125X—Humans, Earth and Environment.....(4)
- MSL F111X—The Oceans.....(4)
- PHYS F102X—Energy and Society.....(4)
- PHYS F103X—College Physics.....(4)
- PHYS F104X—College Physics.....(4)
- PHYS F115X—Physical Science I.....(4)
- PHYS F175X—Astronomy.....(4)
- PHYS F211X—General Physics.....(4)
- PHYS F212X—General Physics.....(4)
- PHYS F213X—Elementary Modern Physics.....(4)

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## Library and Information Research . . . . . 0-1 Credit

- Successful completion of library skills competency test or LS F100X or LS F101X prior to junior standing

0-1

## Upper-Division Writing and Oral Communication

Complete the following at the upper-division level:

- Two writing intensive courses designated (W) and one oral communication intensive course designated (O), or two oral communication intensive courses designated (O/2) (see degree and/or major requirements)

Total credits required 38-39

All degrees (e.g. B.A., B.S., etc.) require additional courses.

Refer to specific degree and program requirements.

Students must earn a C- grade or better in each course used toward the baccalaureate core.

