

# Wildlife Biology

College of Science, Engineering and Mathematics  
Department of Biology and Wildlife  
(907) 474-7671  
mercury.bio.uaf.edu/biolwild/

## B.S. Degree

Minimum Requirements for Degree: 130 credits

The undergraduate wildlife program provides basic education and training. This degree is designed for students whose objective is to do 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 B.S. 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 field work. Thus, an unusually good opportunity is available for students to gain experience and to make job connections.

The Department of Biology and Wildlife, the Institute of Arctic Biology, and the Alaska Cooperative Fish and Wildlife Research Unit cooperate in offering graduate work leading to the M.S. and Ph.D. degrees. Persons desiring detailed information on the graduate program in wildlife biology and management may obtain this from the chair, Wildlife Program.

The Alaska Cooperative Fish and Wildlife Research Unit and Institute of Arctic Biology offer a limited number of research assistantships. Teaching assistantships are available from the Department of Biology and Wildlife.

## Major—B.S. Degree

1. Complete the general university requirements (page 106. As part of the core curriculum requirements, complete: COMM 141X.)
2. Complete the B.S. degree requirements (page 112).
3. Complete the following program (major) requirements:\*
- a. Complete the following:
  - BIOL 105X—Fundamentals of Biology I\*\*\* ..... 4
  - BIOL 106X—Fundamentals of Biology II\*\*\* ..... 4
  - BIOL 239—Introduction to Plant Biology..... 4
  - BIOL 271—Principles of Ecology..... 4
  - BIOL 310—Animal Physiology ..... 4
  - BIOL 317—Comparative Anatomy of Vertebrates ..... 4

BIOL 331—Systematic Botany .....	4
BIOL 362—Principles of Genetics .....	4
BIOL 425—Mammalogy.....	3
BIOL 426W,O/2—Ornithology.....	3
BIOL 471—Population Ecology .....	3
ENGL 314W,O/2—Technical Writing (3) or ENGL 414W—Research Writing (3).....	3
NRM 101—Natural Resources Conservation and Policy .....	3
NRM/WLF 431—Wildlife Law and Policy (3) or NRM 407—Environmental Law (3).....	3
WLF 101—Survey of Wildlife Science.....	1
WLF 201—Wildlife Management Principles .....	3
WLF 303W—Wildlife Management Techniques .....	3
WLF 410—Wildlife Populations and Their Management .....	3
WLF 460—Nutrition and Physiological Ecology of Wildlife.....	3
b. Complete the following:	
CHEM 105X—General Chemistry** .....	4
CHEM 106X—General Chemistry** .....	4
MATH 200X—Calculus (4)** .....	3-4
or MATH 272X—Calculus for Life Sciences (3)** .....	3-4
PHYS 103X—College Physics .....	4
STAT 200—Elementary Probability and Statistics (3)*** or STAT 300—Statistics (3)*** .....	3
STAT 401—Regression and Analysis of Variance*** .....	4
c. Complete 3 of the following:	
BIOL 303—Principles of Metabolism and Biochemistry.....	4
BIOL 406—Entomology.....	4
BIOL 407—Aquatic Entomology .....	3
BIOL 427W,O—Ichthyology .....	3
BIOL 441W,O/2—Animal Behavior.....	3
BIOL 444—Reproductive Biology .....	3
BIOL 472—Community Ecology .....	3
BIOL 473W—Limnology .....	4
BIOL 474—Plant Ecology .....	4
BIOL 480—Water Pollution Biology.....	3
BIOL 481—Principles of Evolution .....	3
NRM 312—Introduction to Range Management .....	3
NRM 338—Introduction to Geographic Information Systems .....	3
NRM 341—GIS Analysis .....	4
NRM 370—Introduction to Watershed Management .....	3
NRM 380W—Soils and the Environment.....	3
NRM 450—Forest Management.....	3
WLF 305—Wildlife Diseases .....	3
WLF 419O/2—Waterfowl and Wetlands Ecology and Management.....	4

4. Complete electives
5. Minimum credits required ..... 130

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

\*\* Satisfies a core requirement.

\*\*\* Satisfies a B.S. degree requirement.

Note: B.S. 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 B.S. degree.
2. All prospective biology teachers must complete the following:  
BIOL 342—Microbiology ..... 4  
BIOL 481—Principles of Evolution ..... 4  
BIOL 303—Principles of Metabolism and Biochemistry (4)  
or CHEM 321 and CHEM 322—Organic Chemistry (6).....4-6
3. All prospective science teachers must complete one of the following:  
PHIL 380—Conceptual Foundations of Science (3)  
or PHIL 382—Science and Technological limits (3)  
or PHIL 481—Philosophy of Science (3) ..... 3

*\*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 post-baccalaureate 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 303W—Wildlife Management Techniques ..... 3  
WLF 410—Wildlife Populations and Their Management ..... 3  
WLF 460—Nutrition and Physiological Ecology of Wildlife..... 3  
Approved BIOL and WLF electives\* ..... 6
2. Minimum credits required ..... 15

*\* Only biology or wildlife electives that are not required for the student's major.*

*Note: Prerequisites for required courses include BIOL 105X-106X, BIOL 271, BIOL 310, STAT 200 or STAT 300, and WLF 201. Depending upon a student's major, some of these prerequisites may satisfy the 6 elective credits in biology and wildlife required for this minor.*

**Note: Page numbers refer to the UAF 2004-2005 academic catalog, which can be viewed online at [www.uaf.edu/catalog/](http://www.uaf.edu/catalog/).**

## General University Requirements

**All degrees (e.g. B.A., B.S., etc.) require additional courses. Refer to specific degree and program requirements.**

### COMMUNICATIONS (9)

**Complete the following:**

ENGL 111X ..... (3) \_\_\_\_\_  
ENGL 211X OR 213X ..... (3) \_\_\_\_\_  
COMM 131X OR 141X ..... (3) \_\_\_\_\_

### LIBRARY & INFORMATION SKILLS (0-1)

**Complete the following:**

LS 100X OR 101X ..... (0-1) \_\_\_\_\_  
**OR** Successful completion of library skills competency test.

### PERSPECTIVES ON THE HUMAN CONDITION (18)

**Complete either the following six courses:**

ANTH 100X OR SOC 100X ..... (3) \_\_\_\_\_  
ECON/PS 100X ..... (3) \_\_\_\_\_  
HIST 100X ..... (3) \_\_\_\_\_  
ART/MUS/THR 200X, HUM 201X OR ANS 202X ..... (3) \_\_\_\_\_  
ENGL/FL 200X ..... (3) \_\_\_\_\_  
PHIL 322X, NRM 303X, COMM 300X,  
PS 300X OR JUST 300X ..... (3) \_\_\_\_\_

**OR** Complete 12 cr from the above list **PLUS** two semester-length courses in a single non-English or Alaska Native language at the university level **OR** three semester-length courses (9 cr) in American Sign Language.

### MATHEMATICS (3-4)

**Complete 3-4 credits from the following:**

MATH 107X ..... (3) \_\_\_\_\_  
**OR** MATH 131X (except for BBA) ..... (3) \_\_\_\_\_  
**OR** MATH 161X ..... (3) \_\_\_\_\_  
MATH 200X ..... (4) \_\_\_\_\_  
MATH 201X ..... (4) \_\_\_\_\_  
MATH 202X ..... (4) \_\_\_\_\_  
MATH 262X ..... (4) \_\_\_\_\_  
MATH 272X ..... (3) \_\_\_\_\_

**NOTE:** Additional 3 cr of math needed for degree requirements.

### NATURAL SCIENCES (8)

**Complete 8 credits from the following:**

ATM 101X ..... (4) \_\_\_\_\_  
BIOL 103X OR 104X ..... (4) \_\_\_\_\_  
BIOL 105X-106X ..... (8) \_\_\_\_\_  
BIOL 111X-112X ..... (8) \_\_\_\_\_  
CHEM 100X ..... (4) \_\_\_\_\_  
CHEM 103X-104X ..... (8) \_\_\_\_\_  
CHEM 105X-106X ..... (8) \_\_\_\_\_  
GEOG 205X ..... (4) \_\_\_\_\_  
GEOS 100X OR 120X OR 125X ..... (4) \_\_\_\_\_  
GEOS 101X-112X ..... (8) \_\_\_\_\_  
MSL 111X ..... (4) \_\_\_\_\_  
PHYS 102X OR 175X ..... (4) \_\_\_\_\_  
PHYS 103X-104X ..... (8) \_\_\_\_\_  
PHYS 211X-212X ..... (8) \_\_\_\_\_  
PHYS 211X-213X ..... (8) \_\_\_\_\_  
PHYS 212X-213X ..... (8) \_\_\_\_\_