

Biological Sciences



College of Science, Engineering and Mathematics
Department of Biology and Wildlife
(907) 474-7671

<http://mercury.bio.uaf.edu/>

Degrees: B.A., B.S., Ph.D.

Minimum Requirements for Degrees: B.A.: 130 credits;

B.S.: 130 credits; Ph.D.: 18 thesis credits

The biological sciences program provides a broad education as well as a sound foundation in the basic principles of biology. Students pursuing either a B.A. or B.S. degree may have majors in biological sciences. The B.A. degree includes fewer credits in the major field, but gives greater emphasis in the fields of social sciences and humanities and allows a greater breadth of subject matter in the curricula.

The B.S. degree includes a foundation in the basic sciences as well as a stronger major within the biological sciences program. Candidates who expect to teach in public secondary schools must be sure that education requirements are met.

UNDERGRADUATE PROGRAM

MAJOR

Biological Sciences—B.A. Degree

1. Complete the general university requirements (page 28). (As part of the core curriculum requirements, complete: CHEM 105X and 106X.)
2. Complete the B.A. degree requirements (page 33).
3. Complete the following program (major) requirements:*

BIOL 105X—Fundamentals of Biology I	4
BIOL 106X—Fundamentals of Biology II	4
BIOL 310—Animal Physiology (4) or	
BIOL 111X—Human Anatomy and Physiology I (4)	
and BIOL 112X—Human Anatomy and Physiology II (4) or	
BIOL 334W—Structure and Function in Vascular Plants (4)	
or BIOL 342—Microbiology (4)	4-8
BIOL 271—Principles of Ecology	4
BIOL 303—Principles of Metabolism and Biochemistry (4) or	
CHEM 321—Organic Chemistry (3)	
and CHEM 322—Organic Chemistry (3)	4-6
BIOL 362—Principles of Genetics	4
BIOL 481—Principles of Evolution	4
BIOL elective	3
STAT 200—Elementary Probability and Statistics	3
4. Minimum credits required

Biological Sciences—B.S. Degree

1. Complete the general university requirements (page 28). (As part of the core curriculum requirements, complete: MATH 200X or MATH 272X; and CHEM 105X and 106X.)

2. Complete the B.S. degree requirements (page 34). (As part of the B.S. degree requirements, complete STAT 200 or STAT 300. Biology foundation courses may be used toward partial fulfillment of the natural science requirement.)
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 310—Animal Physiology (4) or	
BIOL 111X and 112X—Human Anatomy and Physiology I & II (8) or	
BIOL 334W—Structure and Function in Vascular Plants (4)	
or BIOL 342—Microbiology (4)	4-8
BIOL 271—Principles of Ecology	4
BIOL 303—Principles of Metabolism and Biochemistry (4) or	
CHEM 321—Organic Chemistry (3)	
and CHEM 322—Organic Chemistry (3)	4-6
BIOL 362—Principles of Genetics	4
BIOL 481—Principles of Evolution	4
 - b. Complete biology electives**
4. Complete 2 electives (6 or more credits) from the following:

Chemistry (200-level or above)	
Geosciences	
Marine Science	
Mathematics (200-level or above)	
Physics	
Space Physics and Atmospheric Sciences	
Statistics	
5. Minimum credits required

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

** A maximum of 6 credits of independent study (-97) may be applied to this requirement. Students may petition to substitute chemistry courses (up to 10 credits) for the biology electives required for the B.S. degree.

Note: Foreign Language is encouraged by the department in meeting requirements of the core curriculum.

Note: Biology foundation courses may be used toward partial fulfillment of the natural science requirement for the B.S. degree with a major in biological sciences.

Note for students from other departments: Candidates for the bachelor of science degree in general science wishing a major in biological sciences must satisfy both the requirements of their major curriculum and those listed above for a B.A. degree with a major in biological sciences.

MINOR

1. Complete the following:

BIOL 105X—Fundamentals of Biology I	4
BIOL 106X—Fundamentals of Biology II	4



University of Alaska Fairbanks

Admissions • P.O. Box 757480 • Fairbanks, AK 99775-7480 • admissions@uaf.edu • www.uaf.edu

The University of Alaska Fairbanks is accredited by the Commission on Colleges and Universities of the Northwest Association of Schools and Colleges. UAF is an affirmative action/equal opportunity employer and educational institution. 4/03



2. Complete 3 of the following:
BIOL 310—Animal Physiology (4)
or BIOL 111X and 112X—Human Anatomy and Physiology I and II (8) 4-8
BIOL 271—Principles of Ecology 4
BIOL 303—Principles of Metabolism and Biochemistry 4
BIOL 334W—Structure and Function in Vascular Plants 4
BIOL 342—Microbiology 4
BIOL 362—Principles of Genetics 4
BIOL 481—Principles of Evolution 4
3. Minimum credits required 20

GRADUATE PROGRAM

Biological Sciences—Ph.D. Degree

Concentrations: Biology, Botany, Wildlife Biology, Zoology

1. Complete the admission process including the following:
 - a. Submit GRE scores.
2. Complete the general university requirements (page 43).
3. Complete the Ph.D. degree requirements (page 48).
4. Complete coursework at least equivalent to that required for the M.S. degree.
5. Minimum credits required 18

See Biology.

See Botany.

See Wildlife Biology.

See Zoology.



University of Alaska Fairbanks

Admissions • P.O. Box 757480 • Fairbanks, AK 99775-7480 • admissions@uaf.edu • www.uaf.edu

The University of Alaska Fairbanks is accredited by the Commission on Colleges and Universities of the Northwest Association of Schools and Colleges. UAF is an affirmative action/equal opportunity employer and educational institution. 4/03