

General Science

College of Natural Science and Mathematics
Department of Physics
(907) 474-6108
www.uaf.edu/physics/

B.S. Degree

Minimum Requirements for Degree: 130 credits

The B.S. degree program in general science provides a broad background in the natural sciences. The program allows specialization in at least two disciplines within the natural sciences as well as an additional area of associated interest. This degree offers more breadth in the natural sciences than other degree programs and may be classified as an interdisciplinary degree.

Major—B.S. Degree

1. Complete the general university requirements (page 112).
2. Complete the B.S. degree requirements (page 117).
3. Complete the following program (major) requirements:*
 - BIOL 105X—Fundamentals of Biology I..... 4
 - BIOL 106X—Fundamentals of Biology II 4
 - CHEM 105X—General Chemistry** 4
 - CHEM 106X—General Chemistry** 4
 - GEOS 101X—The Dynamic Earth 4
 - GEOS 112X—The History of Earth and Life..... 4
 - MATH 107X—Functions for Calculus 4
 - MATH 108—Trigonometry 3
 - MATH 200X—Calculus** 4
 - PHYS 103X—College Physics*** 4
 - PHYS 104X—College Physics*** 4
4. Select one of the following by the start of the junior year:****
 - a. Two majors.
 - b. One major and two minors.
5. Complete one major from the following: biological sciences, chemistry, geosciences or physics. The major requires the completion of at least 20 credits in addition to the foundation courses in the discipline.*20
6. Complete one of the following*:
 - a. Complete a second major from the following: biological sciences, chemistry, geosciences, physics or mathematics. The major requires the completion of at least 20 credits in addition to the foundation courses in the discipline.....20
 - b. Complete two minors, one of which must be in the natural sciences or mathematics, while the other may be selected from the following disciplines: anthropology, English, French, German, Spanish, Russian, history, political science or economics. The minor must include 12 or more credits in addition to the foundation courses in that discipline.24
7. Minimum credits required130

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

** A student does not need to take MATH 107X and MATH 108 if the student completes MATH 200X with a C or better.

*** PHYS 211X, 212X and 213X may substitute for PHYS 103X and 104X. CHEM 212 may substitute for CHEM 105X and 106X. Complete a B.S. degree mathematics elective for 3 credits if MATH 107X and MATH 108 are not taken.

**** A general science student, after meeting with his/her general science advisor, should contact the head of the major/minor department as early as possible to determine course requirements in that discipline. These courses will be determined by the department head of the discipline and will reflect the student's needs as well as the intent of the general science program.

Note: One year of German or Russian is recommended.

Requirements for General Science Teachers (grades 7–12)*

1. Complete all the requirements of the general science B.S.
2. If the student opts for one major and two minors, all must represent science or mathematics disciplines:
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

Note: 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 General Science.

Note: Page numbers refer to the UAF 2006-2007 academic catalog, which can be viewed online at www.uaf.edu/catalog/.

Baccalaureate Core Requirements

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

COMMUNICATION (9)

Complete the following:

ENGL 111X (3) _____
ENGL 190H may be substituted.

Complete one of the following:

ENGL 211X OR ENGL 213X (3) _____

Complete one of the following:

COMM 131X OR COMM 141X (3) _____

PERSPECTIVES ON THE HUMAN CONDITION (18)

Complete all of the following four courses:

ANTH 100X/SOC 100X (3) _____
ECON 100X OR PS 100X (3) _____
HIST 100X (3) _____
ENGL/FL 200X (3) _____

Complete one of the following three courses:

ART/MUS/THR 200X, HUM 201X OR ANS 202X (3) _____

Complete one of the following six courses:

BA 323X, COMM 300X, JUST 300X, NRM 303X,
PS 300X OR PHIL 322X (3) _____

OR complete 12 credits from the above courses **PLUS**

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

MATHEMATICS (3)

Complete one of the following:

MATH 107X, MATH 161X OR MATH 103X (3-4) _____
** No credit may be earned for more than one of MATH 107X or 161X.*

OR complete one of the following*:

MATH 200X, MATH 201X, MATH 202X,
MATH 262X OR MATH 272X (4) _____

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

NATURAL SCIENCES (8)

Complete any two (4-credit) courses:

ATM 101X (4) _____
BIOL 100X (4) _____
BIOL 103X (4) _____
BIOL 104X (4) _____
BIOL 105X (4) _____
BIOL 106X (4) _____
BIOL 111X (4) _____
BIOL 112X (4) _____
CHEM 100X (4) _____
CHEM 103X (4) _____
CHEM 104X (4) _____
CHEM 105X (4) _____
CHEM 106X (4) _____
GEOG 205X (4) _____
GEOS 100X (4) _____
GEOS 101X (4) _____
GEOS 112X (4) _____
GEOS 120X (4) _____
GEOS 125X (4) _____
MSL 111X (4) _____
PHYS 102X (4) _____
PHYS 103X (4) _____
PHYS 104X (4) _____
PHYS 115X (4) _____
PHYS 116X (4) _____
PHYS 175X (4) _____
PHYS 211X (4) _____
PHYS 212X (4) _____
PHYS 213X (4) _____

LIBRARY AND INFORMATION RESEARCH (0-1)

Successful completion of library skills competency test **OR**

LS 100X or 101X prior to junior standing (0-1) _____

UPPER-DIVISION WRITING AND ORAL COMMUNICATION (0)

Complete the following:

Two writing intensive courses designated (W) (0) _____
One oral communication intensive course designated (O) (0) _____
OR two oral communication intensive courses designated (O/2), at the upper-division level (see degree and/or major requirements) (0) _____

TOTAL CREDITS REQUIRED **38-39**