

# GENERAL SCIENCE

College of Natural Science and Mathematics  
Department of Physics  
907-474-6108  
[www.uaf.edu/physics/](http://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 165).
  2. Complete the B.S. degree requirements (page 165).
  3. Complete the following program (major) requirements:
    - BIOL F115X—Fundamentals of Biology I.....4
    - BIOL F116X—Fundamentals of Biology II .....4
    - CHEM F105X—General Chemistry\*\*\* .....4
    - CHEM F106X—General Chemistry\*\*\* .....4
    - GEOS F101X—The Dynamic Earth .....4
    - GEOS F112X—The History of Earth and Life .....4
    - MATH F151X—College Algebra for Calculus .....4
    - MATH F152X—Trigonometry.....3
    - MATH F251X—Calculus\*\* .....4
    - PHYS F103X—College Physics\*\*\* .....4
    - PHYS F104X—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. 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
  5. 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
  6. Minimum credits required .....130
- \* Students must earn a C- grade or better in each course.  
\*\* A student does not need to take MATH F151X and MATH F152X if the student completes MATH F251X with a C or better. Complete a B.S. degree mathematics elective for 3 credits if MATH F151X and MATH F152X are not taken.  
\*\*\* PHYS F211X, F212X and F213X may substitute for PHYS F103X and F104X. CHEM F212 may substitute for CHEM F105X and F106X.  
\*\*\*\* 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.

### 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 the following:  
PHIL F481—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 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 General Science.



# Baccalaureate Core Requirements

## Communication . . . . . 9 Credits

- ENGL F111X—Introduction to Academic Writing.....(3)

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 F121X—Introduction to Interpersonal Communication.....(3)
- COMM F131X—Fundamentals of Oral Communication: Group Context.....(3)
- COMM F141X—Fundamentals of Oral Communication: Public Context.....(3)

## 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 F113X—Concepts and Contemporary Applications of Mathematics.....(3)
- MATH F151X—College Algebra for Calculus\*.....(4)
- MATH F152X—Trigonometry.....(4)
- MATH F156X—Precalculus.....(4)
- MATH F122X—Algebra for Business and Economics\*\*.....(3)
- STAT F200X—Elementary Probability and Statistics.....(3)

\* No credit may be earned for more than one of MATH F151X or F122X.

Or complete one of the following\*:

- MATH F251X—Calculus I\*\*.....(4)
- MATH F252X—Calculus II.....(4)
- MATH F253X—Calculus III.....(4)
- MATH F222X—Calculus for Business and Economics.....(4)
- MATH F232X—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 F251X, F222X or F232X.

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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—Introduction to Animal Behavior.....(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.

