

# General Science

College of Science, Engineering 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 106).
2. Complete the B.S. degree requirements (page 112).
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.....	3
MATH 108—Trigonometry .....	3
MATH 200X—Calculus*** .....	4
PHYS 103X—College Physics** .....	4
PHYS 104X—College Physics** .....	4

4. Select 1 of the following by the start of the junior year:\*\*\*\*
  - a. Two majors.
  - b. One major and two minors.
5. Complete 1 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.\* .....
6. Complete 1 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.\* .....
  - b. Complete 2 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.\* .....

7. Minimum credits required.....130

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

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

\*\*\*\* 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, both 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) .....

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 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)	_____
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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)	_____