

GEOGRAPHY

School of Natural Resources and Agricultural Sciences
UA Geography Program
907-474-7188
www.uagp.uaf.edu

BA, BS Degrees

Minimum Requirements for Degrees: 120 credits

Geography is a broad holistic study of the interactions among various natural/environmental, political, cultural and economic systems, and how those interactions create the world we see today at both local and global scales. Geography takes a synthesizing and inherently interdisciplinary approach to develop an integrated understanding of climate change, resource development, energy use and conservation, geopolitics, sustainable development, assessment of natural and human-caused environmental hazards, land-use change, regional conflicts, and economic and political developments all over the world. Geography also provides the framework for the integration of emerging technologies such as GIS, remote sensing and geo-visualization into a broad range of academic and professional fields.

The geography BA and BS degrees are built upon a group of required courses that provide students with a firm grounding in the fundamental components of the discipline, including global geographic perspectives, geography of the earth's natural systems, geography of human systems, geospatial sciences (GIS, remote sensing, geo-visualization), and the synthesis of these core perspectives through an integrating capstone experience.

The geography BA degree provides broad cultural training and background in the liberal arts with an emphasis on the circumpolar North and Pacific Rim. The BA prepares students for careers in management, policy, teaching, field-based research, regional planning, and private sector careers. The BA also provides an excellent foundation for advanced studies in a wide range of academic disciplines.

BA students are encouraged to coordinate minors, electives, and internships to develop further expertise within a chosen region or topic (see #4, below), to take advantage of the considerable topical and regional expertise found throughout the UAF community, and also to underscore the important role other disciplines play within the field of geography.

Three specialized concentrations are available to students pursuing the BS degree; environmental studies; landscape analysis and climate change studies; and geospatial sciences.

The environmental studies concentration provides the foundation necessary for understanding interactions between natural and human systems, analysis of environmental issues from an interdisciplinary geographic perspective, a diverse technical and scientific approach to environmental issues, and the ability to design balanced solutions to environmental problems.

The landscape analysis and climate change studies concentration integrates and synthesizes courses in geography, climate, geologic and biological sciences, as well as geospatial sciences and technology. Students will gain a sound and interdisciplinary understanding of how environmental change influences landscape patterns and human activity and welfare, on both spatial (e.g. latitude, altitude) and temporal (e.g. past, future) scales. Senior practicum courses serve as integrating capstone experiences, enabling students to apply what they have learned in real-world settings.

The geospatial sciences concentration emphasizes skills and practices in geographic information systems, remote sensing, geo-visualization and analysis of spatial patterns. Courses in GIS, remote sensing, GPS, map design, spatial statistics and computer programming are integrated with the geography foundation curriculum and courses in natural sciences.

Major — BA Degree

1. Complete the general university requirements (page 131).
2. Complete the BA degree requirements (page 135).
3. Complete the following:*
4. Complete the following program (major) requirements. Students will tailor their program through course selection from the categories below in consultation with their advisor to focus on a subspecialty in the circumpolar North and/or the Pacific Rim.
5. Complete approved electives..... open
6. Minimum credits required120

Note: Geography majors are encouraged to reinforce their program focus with a minor in one of the following areas: Alaska Native Studies, Anthropology, Asian Studies, Economics, Environmental Politics, Foreign Languages, Geology, Geophysics, Global Studies, History, Journalism, Natural Resource Management, Northern Studies, Political Science, Rural Development, Russian Studies.

Note: Students and faculty advisors should carefully review prerequisites for courses outlined in each required and/or optional area. In some instances courses, either in geography or other fields, require successful completion of 1 – 3 prerequisite courses. Therefore, students and faculty should note minimum degree credit hours are 120, but the actual number of required course credits may exceed that number.

Major — BS Degree

1. Complete the general university requirements (page 131).
2. Complete the BS degree requirements (page 136). See individual BS concentrations for specific course requirements.
3. Complete the following:*
4. Complete the following program (major) requirements. Students will tailor their program through course selection from the categories below in consultation with their advisor to focus on a subspecialty in the circumpolar North and/or the Pacific Rim.
5. Complete approved electives..... open
6. Minimum credits required120

Note: Students and faculty advisors should carefully review prerequisites for courses outlined in each required and/or optional area. In some instances courses, either in geography or other fields, require successful completion of 1 – 3 prerequisite courses. Therefore, students and faculty should note minimum degree credit hours are 120, but the actual number of required course credits may exceed that number.

4. Complete one of the following concentrations:*

Environmental Studies

a. Complete the following:

GEOG F207—Research Methods and Statistics in Geography	3
GEOG F307—Weather and Climate	3
GEOG F312—People, Places, and Environment: Principles of Human Geography.....	3
GEOG F339—Maps and Landscape Analysis	3
GEOG F402—Resources and Environment	3
GEOG F490W,O—Geography Seminar.....	3

b. Complete two courses from the following environmental studies electives:

GEOG F463—Wilderness Concepts.....	3
NRM F303X—Environmental Ethics and Actions**	3
NRM F407—Environmental Law	3

c. Complete three courses from the following environmental system electives:

ANTH F428—Ecological Anthropology and Regional Sustainability	3
BIOL F371—Principles of Ecology	4
BIOL/NRM F277—Introduction to Conservation Biology.....	3
GEOS F304—Geomorphology	3
NRM F375—Forest Ecology	3
NRM F380W—Soils and the Environment	3

d. Complete one of the following environmental management electives:

FISH F487W,O—Fisheries Management	3
NRM F365—Principles of Outdoor Recreation Management	3
NRM F430—Resource Management Planning.....	3
NRM F450—Forest Management	3
NRM F480—Soil Management for Quality and Conservation.....	3

e. Complete one of the following techniques electives:

GEOG F301—Geographic Field Studies	3
GEOG F309—Digital Cartography and Geo-Visualization	4
GEOG F435—GIS Analysis (can fulfill techniques requirement ONLY if not used in section #3 above).....	4
GEOS F458—Geoscience Applications of GPS and GIS	3

Landscape Analysis and Climate Change Studies

a. As part of the baccalaureate core requirements, complete CHEM F105X and STAT F200X.

b. As part of the BS degree requirements, complete BIOL F115X and BIOL F116X.

c. Complete the following:

GEOG F312—People, Places, and Environment: Principles of Human Geography	3
GEOG F490W,O—Geography Seminar.....	3

d. Complete one of the following processes requirements (geomorphology, climate, ecology, systems):

GEOG F307—Weather and Climate	3
GEOG F412—Geography of Climate and Environmental Change	3
GEOG F418—Biogeography	3
BIOL F371—Principles of Ecology	4
GEOS F304—Geomorphology	3

e. Complete one of the following processes electives:

NRM F370—Watershed Management.....	3
NRM F380W—Soils and the Environment	3
or a processes-oriented content course approved by a geography faculty advisor.	

f. Complete the following patterns requirements (field methods, GIS/remote sensing tools):

GEOG F222—Fundamentals of Geospatial Sciences	3
GEOG F309—Digital Cartography and Geo-Visualization	4
GEOG F339—Maps and Landscape Analysis	3
GEOG F435—GIS Analysis (4) (can fulfill patterns requirement only if NOT used in section #3 above) or GEOS F458—Geoscience Application GPS and GIS (3).....	3 – 4

g. Complete at least one of the following patterns electives:

GE F471—Remote Sensing for Engineering.....	3
GEOS F422—Geoscience Applications of Remote Sensing	3
NRM F641—Remote Sensing Applications in Natural Resources....	4

h. Complete the following senior practicum requirements (program synthesis):

GEOG F488—Geographic Assessment and Prediction of Natural Hazards	3
GEOG F489W—Senior Practicum: Research Design and Presentation Methods	4

Geospatial Sciences

a. Complete the following:

GEOG F312—People, Places, and the Environment: Principles of Human Geography.....	3
GEOG F490W,O—Geography Seminar.....	3

b. Complete the following:

CS F103—Introduction to Computer Programming.....	3
GEOG F222—Fundamentals of Geospatial Sciences.....	3
GEOG F300—Internship in Natural Resources Management and Geography.....	3
GEOG F338—Introduction to Geographic Information Systems.....	3
GEOG F339—Maps and Landscape Analysis	3-4
GEOG F435—GIS Analysis	4
STAT F200X—Elementary Probability and Statistics.....	3

c. Complete at least two remote sensing electives:

GE F471—Remote Sensing for Engineering	3
GEOS F422—Geoscience Applications of Remote Sensing	3
NRM F641—Remote Sensing Applications in Natural Resources....	4

d. Complete at least two GIS electives:

GE F376—GIS in Geological and Environmental Engineering	3
GEOG F309—Digital Cartography and Geo-Visualization	4
GEOS F458—Geoscience Applications of GPS and GIS	3
NRM F638—GIS Programming***	3

e. Complete at least two landscape electives:

BIOL F469O—Landscape Ecology and Wildlife Habitat	3
GEOS F304—Geomorphology	3
GEOS F408—Photogeology	2
GEOS F430—Statistics and Data Analysis in Geology.....	3

5. Minimum credits required120

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

** If used to fulfill core requirements, NRM F303X may not also count towards geography major.

*** Graduate level credit used to complete this undergraduate degree program may NOT be applied towards future graduate degree programs.

Note: Students and faculty advisors should carefully review prerequisites for courses outlined in each required and/or optional area. In some instances, courses, either in geography or other fields, require successful completion of from 1 – 3 prerequisite courses. Therefore, students and faculty should note minimum degree credit hours are 120, but the actual number of required course credits may exceed that number.

Minor

Geography

1. Complete the following:
GEOG F101—Expedition Earth: Introduction to Geography3
GEOG F111X—Earth and Environment: Elements of
Physical Geography4
GEOG electives 8 – 9
 2. Minimum credits required15 – 16
- * *Students must earn a C grade or better in each course.*

Geographic Information Systems

1. Complete the following:*
- | | |
|---|---|
| GEOG F111X—Earth and Environment: Introduction to
Physical Geography | 4 |
| GEOG/GEOS F222—Fundamentals of Geospatial Sciences..... | 3 |
| GEOG F309—Digital Cartography and Geo-visualization | 4 |
| GEOG F338—Introduction to Geographic Information Systems | 3 |
2. Complete one of the following:*
- | | |
|--|---|
| GEOG F300—Internship in Geography – in GIS (3)
or any GIS-related course approved by geography
department chair..... | 3 |
| GEOG F435—GIS Analysis | 4 |
| GEOG F430—Google Earth and Neogeography..... | 3 |
| NRM F369—GIS and Remote Sensing for Natural Resources | 3 |
3. Minimum credits required17
- * *Students must earn a C grade or better in each course.*

Baccalaureate Core Requirements

Communication 9 Credits

- ENGL F111X—Introduction to Academic Writing.....(3)
ENGL F190H may be substituted.

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

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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 Alaskan Native Performance.....(3)

3

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 F103X—Concepts and Contemporary Applications of Mathematics.....(3)
 - MATH F107X—Functions for Calculus*.....(4)
 - MATH F161X—Algebra for Business and Economics**.....(3)
 - STAT F200X—Elementary Probability and Statistics.....(3)
- * No credit may be earned for more than one of MATH F107X or F161X.

Or complete one of the following*:

- MATH F200X—Calculus I**.....(4)
- MATH F201X—Calculus II.....(4)
- MATH F202X—Calculus III.....(4)
- MATH F262X—Calculus for Business and Economics.....(4)
- MATH F272X—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 F200X, F262X or F272.

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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—Biology of Sex.....(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.