

# GEOGRAPHY

School of Natural Resources and Agricultural Sciences  
UA Geography Program  
907-474-7494  
[www.uagp.uaf.edu](http://www.uagp.uaf.edu)

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

B.A. 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.

Four specialized concentrations are available to students pursuing the B.S. degree; environmental studies, landscape analysis and climate change studies, geospatial sciences, and environmental decision making.

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 — B.A. Degree

1. Complete the general university requirements (page 132).
2. Complete the B.A. degree requirements (page 137).
3. Complete the following:\*  
GEOG F101—Expedition Earth: Introduction to Geography ..... 3  
GEOG F111X—Earth and Environment: Elements of Physical Geography ..... 4  
GEOG F312—People, Places, and Environment: Principles of Human Geography ..... 3  
GEOG F338—Introduction to Geographical Information Systems ..... 3  
GEOG F435—GIS Analysis ..... 4
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.
  - a. Regional geography: Complete two of the following:  
GEOG F302—Geography of Alaska ..... 3  
GEOG F303—Geography of United States and Canada ..... 3  
GEOG F305W—Geography of Europe ..... 3  
GEOG F306—Geography of Russia ..... 3  
GEOG F311W—Geography of Asia ..... 3  
GEOG F410—Geography of the Pacific Rim ..... 3  
GEOG F427—Polar Geography ..... 3
  - b. Physical geography: Complete one of the following:  
GEOG F339—Maps and Landscape Analysis ..... 3  
GEOG F307—Weather and Climate ..... 3  
GEOG F412—Geography of Climate Change ..... 3  
GEOG F418—Biogeography ..... 3
  - c. Human geography: Complete one of the following:  
GEOG F203—World Economic Geography ..... 3  
GEOG F402—Resources and Environment ..... 3  
GEOG F404—Urban Geography ..... 3  
GEOG F405—Political Geography ..... 3
  - d. Technique: Complete one of the following:  
GEOG F301—Geographic Field Studies ..... 3  
GEOG F309—Digital Cartography and Geo-Visualization ..... 4  
GEOG F458—Geoscience Applications of GPS and GIS ..... 3
  - e. Electives: Complete two courses (six credits) from any of the above categories, or other courses appropriate to the student's chosen program of study. Both courses must be at F300-level or higher and approved by the student's advisor.
5. Complete approved electives ..... open
6. Minimum credits required ..... 120

*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 — B.S. Degree

1. Complete the general university requirements (page 132).
2. Complete the B.S. degree requirements (page 137). See individual B.S. concentrations for specific course requirements.
3. Complete the following:\*
  - GEOG F101—Expedition Earth: Introduction to Geography ..... 3
  - GEOG F111X—Earth and Environment: Elements of Physical Geography ..... 4
  - GEOG F338—An Introduction to Geographical Information Systems (3)
    - or GEOG F435—GIS Analysis (4) ..... 3 – 4
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 F338—Introduction to Geographical Information Systems..... 3
  - GEOG F339—Maps and Landscape Analysis ..... 3
  - GEOG F402—Resources and Environment ..... 3
  - NRM F303X—Environmental Ethics and Actions\*\* ..... 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 F271—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/WLF F431—Wildlife Law and Policy ..... 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 geography foundation)..... 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 B.S. 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 F271—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 ..... 3or 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 geography foundation)
    - 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)
  - or GEOS F422—Geoscience Applications of Remote Sensing (3)
  - or NRM F641—Remote Sensing Applications in Natural Resources (4) ..... 3 – 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 Technology (GIS&T)

- 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
  - STAT F200X—Elementary Probability and Statistics ..... 3
  - GEOG F339—Maps and Landscape Analysis ..... 3
  - GEOG F435—GIS Analysis..... 3
  - GEOG F300—Internship in Natural Resources Management and Geography..... 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 ..... 3
  - GEOS F430—Statistics and Data Analysis in Geology ..... 3
5. Minimum credits required ..... 120
- \* Students must earn a C grade (2.0) 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 Geography ..... 3
  - GEOG F111X—Earth and Environment: Elements of Physical Geography ..... 4
  - GEOG electives ..... 8 – 9
2. Minimum credits required ..... 15 – 16

### 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 Geographical 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 required ..... 17

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

## Baccalaureate Core Requirements

(Note: all courses for Core must be at C- or higher.)

### COMMUNICATION (9)

#### Complete the following:

ENGL F111X .....(3) \_\_\_\_\_  
ENGL F190H may be substituted.

#### Complete one of the following:

ENGL F211X OR ENGL F213X .....(3) \_\_\_\_\_

#### Complete one of the following:

COMM F131X OR COMM F141X .....(3) \_\_\_\_\_

### PERSPECTIVES ON THE HUMAN CONDITION (18)

#### Complete all of the following four courses:

ANTH F100X/SOC F100X .....(3) \_\_\_\_\_  
ECON F100X OR PS F100X .....(3) \_\_\_\_\_  
HIST F100X .....(3) \_\_\_\_\_  
ENGL/FL F200X .....(3) \_\_\_\_\_

#### Complete one of the following three courses:

ART/MUS/THR F200X, HUM F201X OR ANS F202X .... (3) \_\_\_\_\_

#### Complete one of the following six courses:

BA F323X, COMM F300X, JUST F300X, NRM F303X,  
PS F300X OR PHIL F322X .....(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 F103X, MATH F107X, MATH F161X OR  
STAT F200X .....(3 – 4) \_\_\_\_\_  
\* No credit may be earned for more than one of MATH F107X or F161X.

#### OR complete one of the following:\*

MATH F200X, MATH F201X, MATH F202X,  
MATH F262X OR MATH F272X .....(4) \_\_\_\_\_  
\*Or any math course having one of these as a prerequisite.

### NATURAL SCIENCES (8)

#### Complete any two (4-credit) courses:

ATM F101X .....(4) \_\_\_\_\_  
BIOL F100X .....(4) \_\_\_\_\_  
BIOL F103X .....(4) \_\_\_\_\_  
BIOL F104X .....(4) \_\_\_\_\_  
BIOL F111X .....(4) \_\_\_\_\_  
BIOL F112X .....(4) \_\_\_\_\_  
BIOL F115X .....(4) \_\_\_\_\_  
BIOL F116X .....(4) \_\_\_\_\_  
CHEM F100X .....(4) \_\_\_\_\_  
CHEM F103X .....(4) \_\_\_\_\_  
CHEM F104X .....(4) \_\_\_\_\_  
CHEM F105X .....(4) \_\_\_\_\_  
CHEM F106X .....(4) \_\_\_\_\_  
GEOG F111X .....(4) \_\_\_\_\_  
GEOS F100X .....(4) \_\_\_\_\_  
GEOS F101X .....(4) \_\_\_\_\_  
GEOS F112X .....(4) \_\_\_\_\_  
GEOS F120X .....(4) \_\_\_\_\_  
GEOS F125X .....(4) \_\_\_\_\_  
MSL F111X .....(4) \_\_\_\_\_  
PHYS F102X .....(4) \_\_\_\_\_  
PHYS F103X .....(4) \_\_\_\_\_  
PHYS F104X .....(4) \_\_\_\_\_  
PHYS F115X .....(4) \_\_\_\_\_  
PHYS F116X .....(4) \_\_\_\_\_  
PHYS F175X .....(4) \_\_\_\_\_  
PHYS F211X .....(4) \_\_\_\_\_  
PHYS F212X .....(4) \_\_\_\_\_  
PHYS F213X .....(4) \_\_\_\_\_

### LIBRARY AND INFORMATION RESEARCH (0 – 1)

Successful completion of library skills competency test **OR**  
LS F100X or F101X prior to junior standing.....(0 – 1) \_\_\_\_\_

### UPPER-DIVISION WRITING AND ORAL COMMUNICATION (0)

#### Complete the following:

Two writing intensive courses designated (W) .....(0) \_\_\_\_\_  
and 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) \_\_\_\_\_

**CORE CREDITS REQUIRED ..... 38 – 39**

**Minimum credits required for degree ..... 120**



UNIVERSITY OF ALASKA FAIRBANKS

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