Geography

School of Natural Resources and Agricultural Sciences
Department of Geography
907-474-7494
www.uaf.edu/snras/geography/

B.A., B.S. Degrees

Minimum Requirements for Degrees: 120 credits

Geography provides a holistic view of the earth as a whole, its distinct and varied regions, as well as the types of and interaction between human activities and the physical world. Geography is the two-way bridge between the physical and social sciences as it explores the interrelationships between the earth's physical and biological systems and how these environmental systems provide a natural resource base for human societies. Geography also provides the framework for the integration of new and emerging technologies such as GIS and remote sensing with studies in a broad range of academic disciplines.

Geographers are interested in patterns and processes of physical and social change, including climate change, geographic information science and technologies, human settlement patterns, natural resources distribution and management, environmental studies, and in the inherent "sense of place" among peoples throughout the world. Geographic methodologies include observation, measurement, description and analysis of places including likenesses, differences, interdependence and importance.

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. also provides a geographic perspective based on these regions and 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.

Three emphasis options are available to students pursuing the B.S. degree: environmental studies, landscape analysis and climate change studies, and geographic information science and technology.

Environmental studies provides the foundation necessary for understanding the natural and social environment, analysis of environmental issues from an interdisciplinary geographic perspective, a diverse technical and scientific approach to environmental issues, and the ability to find balanced solutions to environmental problems.

Landscape analysis and climate change studies integrates and synthesizes courses in geography, climate change, physical and biological sciences, and geographic information sciences and technology. Students will gain a sound and interdisciplinary understanding of how environmental change influences landscape patterns and humans 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.

Geographic information science and technology emphasizes skills and practices in geographic information science, systems, technology and analytical aspects of geography. Courses in statistics, computer programming, GIS, GPS and remote sensing are integrated with the geography core curriculum and courses in natural sciences.

A minor in geography is also available.

Major — B.A. Degree

1. Complete the general university requirements (page 124).
2. Complete the B.A. degree requirements (page 128).
3. Complete the following required foundation courses:*
   GEOG F101—Local Places, Global Regions: An Introduction to Geography 3
   GEOG F211X—Earth Systems: Elements of Physical Geography 3
   GEOG F312—People, Places, and Environment: Principles of Human Geography 3
   GEOG F338—An Introduction to GIS 3
   GEOG F490W,O—Geography Seminar 3
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—Cold Lands 3
   b. Physical Geography: Complete one of the following:
      GEOG F339—Maps and Landscape Analysis 3
      GEOG F401—Weather & Climate 3
      GEOG F411—Pattern and Process in the Subarctic and Arctic 4
      GEOG F412—Geography of Climate Change 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—Cartography 4
      GEOG F378—Introduction to Geoinformatics 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 A: 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 B: Students and faculty advisors should review carefully, prerequisites for courses outline in each required and/or optional area. In some instances, courses, either in geography or other fields require successful completion of anywhere 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.

Major — B.S. Degree

1. Complete the general university requirements (page 124).
2. Complete the B.S. degree requirements (page 129).
3. Complete the following required foundation courses:*
   GEOG F101—Local Places, Global Regions: An Introduction to Geography 3
   GEOG F211X—Earth Systems: Elements of Physical Geography 3
   GEOG F312—People, Places, and Environment: Principles of Human Geography 3
   GEOG F338—An Introduction to GIS 3
   GEOG F490W,O—Geography Seminar.....3
4. Complete one of the following options:*

Geography Option I — Environmental Studies

a. Complete the following:
   GEOG F339—Maps and Landscape Analysis.....3
   GEOG F401—Weather and Climate 3
   GEOG F402—Resources and Environment 3
   GEOG F408—Quantitative Research Techniques 3
b. Complete 6 credits from the following environmental studies electives:
   GEOG/NRM F463—Wilderness Concepts.....3
   NRM F303X—Environmental Ethics and Actions** 3
   NRM F407—Environmental Law 3
c. Complete 9 credits from the following environmental system electives:
   ANTH F428W—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
   NRM/FISH F400W—Fisheries Science*** 3
d. Complete 3 credits from the following environmental management electives:
   FISH F401W,O/2—Fisheries Management*** 3
   NRM F365W—Principles of Outdoor Recreation Management3
   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 courses:
   GEOG F301—Geographic Field Studies 3
   GEOG F309—Cartography 4
   GEOG/NRM F338—Introduction to Geographic Information Systems 3

Geography Option II — Landscape Analysis and Climate Change Studies:

a. Complete B.S. degree options, STAT F200X or 300, and prerequisite courses BIOL F115X, BIOL F116X, and PHYS F103.
b. Complete the following Processes requirements (geomorphology, climate, ecology, systems):
   GEOG F401—Weather and Climate 3
   GEOG F411—Pattern and Process in Subarctic and Arctic 3
   GEOG F412—Geography of Climate and Environmental Change 3
   BIOL F271—Principles of Ecology*** 4
   GEOS F304—Geomorphology*** 3
   Complete one of the following courses:
   BIOL F467—Ecosystems of Alaska***
   or BIOL F469—Landscape Ecology/Wildlife Habitat***
   or NRM F370—Watershed Management***
   or NRM F380W—Soils and the Environment***
   or a processes-oriented content course approved by Geography faculty advisor.
c. Complete the following Patterns requirements (Field Methods, GIS/Remote Sensing Tools):
   GEOG F309—Cartography 4
   GEOG F339—Maps and Landscape Analysis.....3
   GEOG F341—GIS Analysis 4
   GEOS F378—Introduction to GeoInformatics*** 3
d. Complete at least one course of remote sensing electives selected from the following:
   GE F471—Remote Sensing for Engineering*** 3
   GEOS F422—Geoscience Applications of Remote Sensing***.3
   GEOS F434—Remote Sensing of the Cryosphere*** 3
   NRM F641—Remote Sensing Applications in Natural Resources*** 4
e. Complete the following Senior Practicum requirements (program synthesis):
   GEOG F488—Geographic Assessment and Prediction of Natural Hazards 3
   GEOG F489W—Senior Practicum: Field Studies in Landscape Analysis & Climate Change.....4

Geography Option III — Geographic Information Science and Technology (GIS&T)

a. Complete B.S. degree options, including prerequisite course, PHYS F103.
b. Complete the following GIS&T breadth:
   CS F103—Introduction to Computer Programming*** 3
   STAT F200X—Elementary Probability and Statistics***.....3
   GEOG F339—Maps and Landscape Analysis.....3
   GEOG F341—GIS Analysis 3
   NRM/GEOG F300—Internship in Natural Resources Management and Geography.....3
c. Complete at least two courses of remote sensing electives:
   GE F471—Remote Sensing for Engineering*** 3
   GEOS F422—Geoscience Applications of Remote Sensing***.3
   GEOS F434—Remote Sensing of Cryosphere*** 3
   NRM F641—Remote Sensing Applications in Natural Resources 3

d. Complete at least two courses of GIS electives:
GE F376—GIS in Geological and Environmental Engineering*** 3
GEOG F309—Cartography 4
GEOS F378—Introduction to GeoInformatics*** 3
NRM F638—GIS Programming◊....3

e. Complete at least two courses in 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

* *Student 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.*
*** *Prerequisites required.*
◊ *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 review carefully, 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 anywhere 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

1. Complete the following:
GEOG F101—World Regional Geography (3)
or GEOG F203—World Economic Geography (3) 3
GEOG F205—Elements of Physical Geography....3
GEOG electives....8 – 9

2. Minimum credits required....15

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 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 F205X.... (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) _____
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