FORMAT 5
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PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR/MINOR)

SUBMITTED BY:

Department	**UA Geography Program**	**College/School**	**SNRAS**
Prepared by	**de Wit and Heiser**	**Phone**	**7494**
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See http://www.uaf.edu/uafgov/faculty/cd for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	**Geography**
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	**B.S.**

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

We are proposing minor changes to our existing concentration in GIS&T, changing the name of the concentration to *Geospatial Sciences* and integrating a new course GEOS/GEOS 222 Fundamentals of Geospatial Sciences. This is part of a collaborative effort with the Department of Geology and Geophysics to better align the geospatial course offerings on campus, and to

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

Geography

School of Natural Resources and Agricultural Sciences
UA Geography Program
907-474-7494
www.uagp.uaf.edu

B.A., B.S. Degrees; Minor

Downloadable PDF

Minimum Requirements for Degrees: 120 credits

Geography provides a holistic view of the earth, 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 soci

Geography Option I -- Environmental Studies

a. Complete the following:
   GEOG F207--Research Methods and Statistics in Geography--3 credits
   GEOG F307--Weather and Climate--3 credits
   GEOG F339--Maps and Landscape Analysis--3 credits
   GEOG F402--Resources and Environment--3 credits
b. Complete 6 credits from the following environmental studies electives:
   GEOG F463--Wilderness Concepts--3 credits
   NRM F303X--Environmental Ethics and Actions**--3 credits
   NRM F407--Environmental Law--3 credits
c. Complete 9 credits from the following environmental system electives:
   ANTH F428--Ecological Anthropology and Regional Sustainability***--3 credits
   BIOL F271--Principles of Ecology***--4 credits
   BIOL/NRM F277--Introduction to Conservation Biology***--3 credits
   GEOS F304--Geomorphology--3 credits
   NRM F375--Forest Ecology***--3 credits
   NRM F380W--Soils and the Environment***--3 credits
d. Complete 3 credits from the following environmental management electives:
   FISH F487W,O--Fisheries Management***--3 credits
   NRM F365--Principles of Outdoor Recreation Management--3 credits
   NRM F430--Resource Management Planning--3 credits
   NRM/WLF F431--Wildlife Law and Policy***--3 credits
   NRM F450--Forest Management***--3 credits
   NRM F480--Soil Management for Quality and Conservation***--3 credits
e. Complete one of the following techniques courses:
   GEOG F301--Geographic Field Studies--3 credits
   GEOG F309--Digital Cartography and

Tools):

*** 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 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

1. Complete the following:
   GEOG F101--Expedition Earth: Introduction to Geography (3)
   or GEOG F203--World Economic Geography (3)--3 credits
   GEOG F111X--Earth and Environment: Elements of Physical Geography--4 credits
   GEOG electives--8 - 9 credtis
2. Minimum credits required--15 credits

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:
(Underline new wording ~~strike through old wording~~ and use complete catalog format)

Geography

School of Natural Resources and Agricultural Sciences
UA Geography Program
907-474-7494
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B.A., B.S. Degrees; Minor

geography of human systems, geospatial sciences (GIS, remote sensing, geovisualization), and the synthesis of these core perspectives through an integrating capstone experience.

BA Description

The geography B.A. degree provides broad cultural training and background in the liberal arts with an emphasis on geographic understanding of 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 #5, 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.

BS Description

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.

Environmental Studies 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.

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.

Geospatial Sciences concentration emphasizes skills and practices in geographic information systems, remote sensing, geovisualization, 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.S. Degree

1. Complete the general university requirements.
2. Complete the B.S. degree requirements. See individual B.S. concentrations for specific course requirements.
3. Complete the following required Geography Foundation ~~foundation~~ courses:*
   GEOG F101--Expedition Earth: Introduction to Geography--3 credits
   GEOG F111X--Earth and Environment: Elements of Physical Geography--4 credits

~~GEOG F312 - People, Places, and Environment: Principles of Human Geography - 3 credits~~
GEOG F338--~~An~~ Introduction to GIS--3
OR
GEOG F435 GIS Analysis--4 cr
~~GEOG F490W,O - Geography Seminar - 3 credits~~

4. Complete one of the following ~~options~~ Geography Concentrations:*

Geography ~~Option~~ Concentration I -- Environmental Studies

a. Complete the following:
GEOG F207--Research Methods and Statistics in Geography--3 credits
GEOG F307--Weather and Climate--3 credits
GEOG F312--People, Places, and Environment: Principles of Human Geography--3 credits
GEOG F339--Maps and Landscape Analysis--3 credits
GEOG F402--Resources and Environment --3 credits
NRM F303X--Environmental Ethics and Actions**--3 credits
GEOG F490W,O--Geography Seminar --3 credits

b. Complete ~~6 credits~~ two courses from the following Environmental Studies ~~environmental studies~~ electives:
GEOG F463--Wilderness Concepts--3 credits
NRM F303X--Environmental Ethics and Actions**--3 credits
NRM F407--Environmental Law--3 credits

c. Complete ~~9 credits~~ three courses from the following Environmental System ~~environmental system~~ electives:
ANTH F428--Ecological Anthropology and Regional Sustainability--3 credits
BIOL F271--Principles of Ecology--4 credits
BIOL/NRM F277--Introduction to Conservation Biology--3 credits
GEOS F304—Geomorphology--3 credits
NRM F375--Forest Ecology--3 credits
NRM F380W--Soils and the Environment--3 credits

d. Complete ~~3 credits from~~ one of the following Environmental Management ~~environmental management~~ electives:
FISH F487W,O--Fisheries Management--3 credits
NRM F365--Principles of Outdoor Recreation Management--3 credits
NRM F430--Resource Management Planning--3 credits
NRM/WLF F431--Wildlife Law and Policy--3 credits

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

b. As part of the B.S. degree requirements complete BIOL F115X and BIOL F116X.

c. Complete the following required geography courses:
GEOG F312--People, Places, and Environment: Principles of Human Geography--3 credits
GEOG F490W,O--Geography Seminar--3 credits

d. Complete the following Processes requirements (geomorphology, climate, ecology, systems):
GEOG F307--Weather and Climate--3 credits
GEOG F412--Geography of Climate and Environmental Change--3 credits
GEOG F418—Biogeography--3 credits
BIOL F271--Principles of Ecology--4 credits
GEOS F304--Geomorphology--3 credits

e. Complete one of the following Processes electives:
BIOL F467--Ecosystems of Alaska***--3 credits
or BIOL F469 O--Landscape Ecology and Wildlife Habitat (3)***
or NRM F370--Watershed Management (3)
or NRM F380 W--Soils and the Environment(3)\
or a processes-oriented content course approved by Geography faculty

GEOG

social sciences.

1. Geography Minor

Complete the following:
GEOG F101--Expedition Earth: Intro

E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?
Include information on the Programs/Departments contacted (e.g., email, memo)

Geospatial Concentration:

The Geospatial Concentration was revised (from GIST) in collaboration with faculty from Geology and Geophysics, and is an effort to better integrate geospatial science course offerings across campus. Both programs will be impacted. The impact on Geography is minimal as the revision involves primarily a name change of the concentration and the addition of one course to the program. It was determined that one new course, *GEOG/GEOG 222 Fundamentals of Geospatial Sciences,* was needed to better prepare students for the concentration, integrate sub-fields of geospatial science, and to free upper division courses from needing to cover fundamental topics. Adjustment of course requirements will not increase the overall credit hours for Geography majors. Faculty from both departments will contribute to the design and/or delivery of the new course, and assignments fit into existing faculty workloads.

Both departments are making revisions to their respective programs and curriculum. Collaboration on concentrations areas ensures that programs are not duplicated, creates a stronger and more integrated concentration, and allows the sharing of resources and expertise across departments and schools. While Geography has had this concentration since 2006, this collaboration and program change will strengthen the Geography course offerings. At the same time, it will positively impact and benefit Geology & Geophysics by allowing them to offer a new concentration in geospatial sciences for *geology majors* without having to replicate, justify duplication, or compete with an established program. Students, while pursuing a shared concentration or emphasis area from their home department, will still be *majoring in their respective degrees* and will have all the required background and course work intended and expected within that degree. For example, geology majors will still take the standard series of required core geology courses, and be considered 'geologists' upon graduation. Likewise, Geography majors will have a standard Geography course load including human geography, cartography, and will be 'geographers'.

Department chairs and deans from both departments and schools have encouraged and supported this program integration, the sharing of courses, and the collaboration of faculty.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

These are considered minor changes within the Geography B.S. and all outcome assessment efforts are already in place for the major.

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it

faculty and leadership of the Department of Geology and Geophysics and the UA Geography Program. With the increasing demand from the industry in the area of geospatial science (that involves remote sensing, GIS, GPS) students in both departments are increasingly gravitating toward taking more classes in these thematic areas. Students in both departments need some common core skills, followed by some specialized application courses that are specific for the respective departments."

For Geography, the program revisions have resulted in an additional introductory level class that improves the overall strength of our concentration. The name change better reflects the scope of the concentration and the cross-department collaboration. As stated above, this collaboration and shared option allows the Department of Geology & Geophysics to offer a B.S. concentration without duplicating or competing with an existing program. As a result of these revisions and the addition of GEOS/GEOG 222 to both departments' curricula, we are certain that the quality of programs offered by both departments will be improved.

Finally, collaboration among faculty and the sharing of resources sets an example for other departments that wish to strengthen their programs, but find themselves limited by 'territorial' claims of overlapping disciplines, and the unfortunate reality of competition among programs to generate credit hours.

APPROVALS:

Signature, Chair, Program/Department of:	**Geography**	