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PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR)

SUBMITTED BY:

Department	Geosciences	College/School	CNSM
Prepared by	Cary de Wit	Phone	474-7141
Email Contact	cwdewit@alaska.edu	Faculty Contact	Cary de Wit

See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures/> 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.A. and B.S.

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

Update description to reflect move of program from SNRE to CNSM
 Drop GEOG F402 from degree electives under the Geography BA.
 Drop GEOG F404 from degree electives under the Geography BA.
 Drop GEOG F402 from degree requirements under the Geography BS Environmental Studies concentration.
 Drop GEOG F463 from degree electives under the Geography BS Environmental Studies concentration.
 Add STAT F200x to degree requirements for the Geography BS Environmental Studies concentration.
 Change designator for GEOG F338 to NRM F338.
 Change designator for GEOG F435 to NRM F435.
 Correct errors in Geography program description.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

GEOGRAPHY
 School of Natural Resources and Extension
 UA Geography Program
 907-474-7188
www.uaf.edu/snre/
BA, BS Degrees
 Minimum Requirements for Degrees: 120 credits

RECEIVED
 OCT 10 2014
 Dean's Office
 College of Natural Science & Mathematics

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 existing and 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 gives students 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.

Our students find work in such fields as mapping technology (GIS/ cartography), regional planning, international relations, state and federal resource management, transportation planning, environmental impact assessment, tourism, and teaching. Many of our students go on to graduate study in geography, natural resources, environmental science or planning.

The geography BA degree gives students a broad understanding of the interactions among the physical environments, economics, political events, and cultures of various regions of the world, and equips students with the ability to interpret contemporary geopolitical and environmental issues. The BA prepares students for careers in management, policy, teaching, field-based research, regional planning, and a variety of private sector careers. The BA also provides an excellent foundation for graduate 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, 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 founda-

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tion 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. Students gain a sound and interdisciplinary understanding of how environmental change influences landscape patterns and human activity and welfare on both spatial and temporal scales. Senior capstone and internship courses offer 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, 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 the natural sciences.

Major — BA Degree

1. Complete the general university requirements (page 129).
2. Complete the BA degree requirements (page 133).
3. As part of the baccalaureate core requirements, complete NRM F303X.*
4. 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 Geographic Information Systems.....3
 - GEOG F490W,O—Geography Seminar.....3
5. 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 F307—Weather and Climate.....3
 - GEOG F339—Maps and Landscape Analysis.....4
 - GEOG F412—Geography of Climate and Environmental Change.....3
 - GEOG F418—Biogeography.....3
 - c. Human geography: Complete one of the following:
 - GEOG F402—Resources and Environment.....3
 - GEOG F404—Urban Geography.....3
 - GEOG F405—Political Geography.....3
 - GEOG F420—Geopolitics of Energy.....3
 - NRM F403W/O—Environmental Decision Making.....3
 - d. Techniques: Complete one of the following:
 - GEOG F309—Digital Cartography and Geo-Visualization.....4
 - GEOG F430—Google Earth and Neogeography.....3
 - GEOG F435—GIS Analysis.....4
 - GEOG F483W—Research Design, Writing, and Presentation Methods.....3
 - GEOG F422—Geoscience Applications of Remote Sensing.....3
 - GEOG F458—Geoscience Applications of GPS and GIS.....3
 - NRM F366—Survey Research in Natural Resource Management...3
 - e. Geography electives: Complete two courses 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.
6. Minimum credits required.....120

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

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 129).
2. Complete the BS degree requirements (page 134). See individual BS concentrations for specific course requirements.
3. As part of the baccalaureate core requirements, complete NRM F303X.*
4. 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 Geographic Information Systems.....3
 - GEOG F490W/O—Geography Seminar.....3
5. Complete one of the following concentrations:*

Environmental Studies

- a. As part of the baccalaureate core requirements, complete CHEM F105X.
- b. As part of the BS degree requirements, complete BIOL F115X and BIOL F116X.
- c. Complete the following:
 - GEOG F207—Research Methods and Statistics in Geography.....3
 - GEOG F307—Weather and Climate.....3
 - GEOG F339—Maps and Landscape Analysis.....4
 - GEOG F402—Resources and Environment.....3
- d. Complete two courses from the following environmental studies electives:
 - GEOG F412—Geography of Climate and Environmental Change...3
 - GEOG F463—Wilderness Concepts.....3
 - GEOG F488—Geographic Assessment and Prediction of Natural Hazards.....3
 - NRM F403W/O—Environmental Decision Making.....3
 - NRM F407—Environmental Law.....3
- e. 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
 - GEOG F418—Biogeography.....3
 - GEOS F304—Geomorphology.....3
 - NRM F375—Natural Resource Ecology.....3
 - NRM F380W—Soils and the Environment.....3
- f. Complete one of the following environmental management electives:
 - NRM F365—Principles of Outdoor Recreation Management.....3
 - NRM F370—Introduction to Watershed Management.....3
 - NRM F430—Resource Management Planning.....3
 - NRM F464—Wilderness Management.....3
 - NRM F480—Soil Management for Quality and Conservation.....3
- g. Complete one of the following techniques electives:
 - GEOG F309—Digital Cartography and Geo-Visualization.....4
 - GEOG F435—GIS Analysis.....4
 - GEOS F422—Geoscience Applications of Remote Sensing.....3
 - GEOS F458—Geoscience Applications of GPS and GIS.....3
 - NRM F366—Survey Research in Natural Resource Management.....3
 - GEOG F483W—Research Design, Writing, and Presentation Methods.....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 processes requirements (geomorphology, climate, ecology, systems):
 - GEOG F307—Weather and Climate3
 - GEOG F412—Geography of Climate and Environmental Change.....3
 - GEOG F418—Biogeography.....3
 - BIOL F371—Principles of Ecology.....4
 - GEOS F304—Geomorphology.....3
- d. 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.
- e. Complete the following patterns requirements (field methods, GIS/ remote sensing tools):
 - GEOG F309—Digital Cartography and Geo-Visualization.....4

- GEOG F339—Maps and Landscape Analysis.....4
- GEOG F435—GIS Analysis (4) or GEOS F458—Geoscience Application GPS and GIS (3)..... 3–4

f. 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

g. Complete the following capstone requirement (program synthesis):

- GEOG F483W—Research Design, Writing, and Presentation Methods.....3

Geospatial Sciences

a. Complete the following:

- CS F103—Introduction to Computer Programming.....3
- GEOG F300—Internship in Geography.....3
- GEOG F339—Maps and Landscape Analysis.....3-4
- GEOG F435—GIS Analysis.....4
- STAT F200X—Elementary Probability and Statistics.....3

b. 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

c. 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

d. 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

6. Minimum credits required.....120

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

** 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.....9

2. Minimum credits required.....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 F309—Digital Cartography and Geo-Visualization.....4
- GEOG F338—Introduction to Geographic Information Systems.....3
- GEOS F458—Geoscience Applications of GPS and GIS.....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).....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

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

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 Extension ~~College of Natural Science & Mathematics~~
UA Geography Program
907-474-7188 7565
www.uaf.edu/~~sare~~ cnsm/

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 existing and 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 gives students 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.

Our students find work in such fields as mapping technology (GIS/ cartography), regional planning, international relations, state and federal resource management, transportation planning, environmental impact assessment, tourism, and teaching. Many of our students go on to graduate study in geography, natural resources, environmental science or planning.

The geography BA degree gives students a broad understanding of the interactions among the physical environments, economics, political events, and cultures of various regions of the world, and equips students with the ability to interpret contemporary geopolitical and environmental issues. The BA prepares students for careers in management, policy, teaching, field-based research, regional planning, and a variety of private sector careers. The BA also provides an excellent foundation for graduate 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, 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 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. Students gain a sound and interdisciplinary understanding of how environmental change influences landscape patterns and human activity and welfare on both spatial and temporal scales. Senior capstone and internship courses offer 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, 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 the natural sciences.

Major — BA Degree

1. Complete the general university requirements (page 129).
2. Complete the BA degree requirements (page 133).
3. As part of the baccalaureate core requirements, complete NRM F303X.*
4. 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 Geographic Information Systems.....3~~
 - GEOG F490W,O—Geography Seminar.....3
 - NRM F338—Introduction to Geographic Information Systems.....3
5. 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 F307—Weather and Climate.....	3
GEOG F339—Maps and Landscape Analysis.....	4
GEOG F412—Geography of Climate and Environmental Change.....	3
GEOG F418—Biogeography.....	3
c. Human geography: Complete one of the following:	
GEOG F402—Resources and Environment.....	3
GEOG F404—Urban Geography.....	3
GEOG F405—Political Geography.....	3
GEOG F420—Geopolitics of Energy.....	3
NRM F403W/O—Environmental Decision Making.....	3
d. Techniques: Complete one of the following:	
GEOG F309—Digital Cartography and Geo-Visualization.....	4
GEOG F430—Google Earth and Neogeography.....	3
GEOG F435—GIS Analysis.....	4
GEOG F483W—Research Design, Writing, and Presentation Methods.....	3
GEOG F422—Geoscience Applications of Remote Sensing.....	3
GEOG F458—Geoscience Applications of GPS and GIS.....	3
NRM F366—Survey Research in Natural Resource Management.....	3
NRM F435—GIS Analysis.....	4
e. Geography electives: Complete two courses 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.	
6. Minimum credits required.....	120

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

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 129).
2. Complete the BS degree requirements (page 134). See individual BS concentrations for specific course requirements.
3. As part of the baccalaureate core requirements, complete NRM F303X.*
4. 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 Geographic Information Systems.....	3
GEOG F490W,O—Geography Seminar.....	3
NRM F338—Introduction to Geographic Information Systems.....	3
5. Complete one of the following concentrations:*

Environmental 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 F207—Research Methods and Statistics in Geography.....	3
GEOG F307—Weather and Climate.....	3
GEOG F339—Maps and Landscape Analysis.....	4
GEOG F402—Resources and Environment.....	3
GEOG F483W—Research Design, Writing, and Presentation Methods.....	3
- d. Complete two courses from the following environmental studies electives:

GEOG F412—Geography of Climate and Environmental Change...	3
GEOG F463—Wilderness Concepts.....	3

- GEOG F488—Geographic Assessment and Prediction of Natural Hazards.....3
- NRM F403W/O—Environmental Decision Making.....3
- NRM F407—Environmental Law.....3
- e. 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
 - GEOG F418—Biogeography.....3
 - GEOS F304—Geomorphology.....3
 - NRM F375—Natural Resource Ecology.....3
 - NRM F380W—Soils and the Environment.....3
- f. Complete one of the following environmental management electives:
 - NRM F365—Principles of Outdoor Recreation Management.....3
 - NRM F370—Introduction to Watershed Management.....3
 - NRM F430—Resource Management Planning.....3
 - NRM F464—Wilderness Management.....3
 - NRM F480—Soil Management for Quality and Conservation.....3
- g. Complete one of the following techniques electives:
 - GEOG F309—Digital Cartography and Geo-Visualization.....4
 - ~~GEOG F435—GIS Analysis.....4~~
 - GEOS F422—Geoscience Applications of Remote Sensing.....3
 - GEOS F458—Geoscience Applications of GPS and GIS.....3
 - NRM F366—Survey Research in Natural Resource Management.....3
 - ~~NRM F435—GIS Analysis.....4~~
 - ~~GEOG F483W—Research Design, Writing, and Presentation Methods.....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 processes requirements (geomorphology, climate, ecology, systems):
 - ~~BIOL F371—Principles of Ecology.....4~~
 - GEOG F307—Weather and Climate3
 - GEOG F412—Geography of Climate and Environmental Change.....3
 - GEOG F418—Biogeography.....3
 - ~~BIOL F371—Principles of Ecology.....4~~
 - GEOS F304—Geomorphology.....3
- d. 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.
- e. Complete the following patterns requirements (field methods, GIS/ remote sensing tools):
 - GEOG F309—Digital Cartography and Geo-Visualization.....4
 - GEOG F339—Maps and Landscape Analysis.....4
 - ~~GEOG NRM F435—GIS Analysis (4) or GEOS F458—Geoscience Application GPS and GIS (3)..... 3-4~~
- f. 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
- g. Complete the following capstone requirement (program synthesis):
 - GEOG F483W—Research Design, Writing, and Presentation Methods.....3

Geospatial Sciences

- a. Complete the following:
 - CS F103—Introduction to Computer Programming.....3
 - GEOG F300—Internship in Geography (in GIS) (3)3
 - GEOG F339—Maps and Landscape Analysis.....4 ~~3-4~~
 - ~~GEOG NRM F435—GIS Analysis.....4~~
 - STAT F200X—Elementary Probability and Statistics.....3
- b. 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

c. 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

d. Complete at least two landscape electives:

BIOL F4690—Landscape Ecology and Wildlife Habitat.....3

GEOG F304—Geomorphology.....3

GEOG F408—Photogeology.....2

GEOG F430—Statistics and Data Analysis in Geology.....3

6. Minimum credits required.....120

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

*** 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.....9
 2. Minimum credits required.....16
- * Students must earn a C grade or better in each course.*

Geographic Information Systems

1. Complete the following:*
 - GEOG F111X—Earth and Environment: ~~Elements of Introduction to~~ Physical Geography.....4
 - GEOG F309—Digital Cartography and Geo-Visualization.....4
 - ~~GEOG NRM F338—Introduction to Geographic Information Systems.....3~~
 - GEOG F458—Geoscience Applications of GPS and GIS.....3
 2. Complete one of the following:*
 - GEOG F300—Internship in Geography (in GIS) (3) or any GIS-related course approved by advisor ~~geography department chair (3)~~.....3
 - GEOG F435—GIS Analysis.....4
 - GEOG F430—Google Earth and Neogeography.....3
 - NRM F369—GIS and Remote Sensing for Natural Resources.....3
 - NRM F435—GIS Analysis.....4
 3. Minimum credits required.....17
- * Students must earn a C grade or better in each course.*

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

No significant impact. Will use existing faculty, space, and curriculum resources.

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)

These changes will have no known impact on other programs.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

Geography SLOA consists of assembling a concise portfolio of student work and evaluations of that work. Written work and records of oral presentations are systematically collected from specific required courses as each geography major progresses through his/her program. Each student's early work from introductory courses is compared to work produced in senior capstone courses, and a faculty committee produces an evaluation of improvement in writing, presentation, and critical thinking skills for each student. These evaluations are then compiled in aggregate form to give a general representation of measurable improvement in these skills for a given cohort of graduating students. These aggregate measures will be compared from year to year to assess whether the entire degree program is producing an increase, decrease, or steady state in student learning over time.

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 because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.

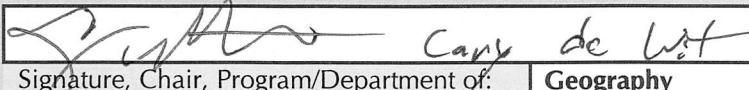
These changes are being made to adjust to changes in program priorities, faculty availability, and the administrative move of the Geography programs from the School of Natural Resources and Agricultural Sciences (SNRAS) to the College of Natural Science & Mathematics (CNSM).

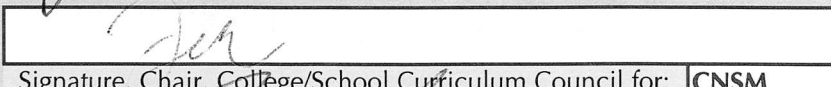
GEOG F404 is being dropped because it has been deleted from the catalog. The faculty member who taught GEOG F463 and GEOG F402 has retired, and these courses have been determined to no longer suit the priorities of the program.

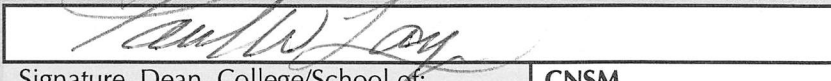
STAT F200x has been added as a requirement under the Geography BS Environmental Studies concentration to formalize what has been done through advising up to now.

Because of the move from SNRE to CNSM, the NRM Department (which is in SNRE) asked to remove the GEOG cross-listing from GEOG/NRM F338 and GEOG/NRM 435. Those courses are entirely taught by faculty in the NRM Department, and both departments agreed that all the credit hours and tuition for those courses should go to SNRE, rather than be split between SNRE and CNSM. The Geography program will continue to use those courses in its degrees, but will now list them with the NRM designator.

APPROVALS: SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

 Date 10-10-2014
Signature, Chair, Program/Department of: **Geography**

 Date 10-16-14
Signature, Chair, College/School Curriculum Council for: **CNSM**

 Date 10/7/14
Signature, Dean, College/School of: **CNSM**

CHAIR SIGNATURE OBTAINED FOLLOWING APPROVAL BY FACULTY SENATE COMMITTEE

Date

Signature, Chair, UAF Faculty Senate
__ Curriculum Review Committee

__ Graduate Academic and Advisory Committee