GEOGRAPHY (GEOG)

GEOG F101X Expedition Earth: Introduction to Geography (s)
3 Credits
Introduction to essential concepts and approaches of geographic study. Explores physical, political, economic and cultural geography of major world culture regions. Examines each region in relation to others, and in context of global economic, political and environmental change.
Attributes: UAF GER Social Sciences Req
Lecture + Lab + Other: 3 + 0 + 0

GEOG F111X Earth and Environment: Elements of Physical Geography (n)
4 Credits
Offered Fall
This course explores the processes that create and shape Earth's physical environment. A global systems approach will be used to describe elements of, and interactions between, the atmosphere, hydrosphere, lithosphere and biosphere. A review and application of modern mapping techniques including GIS and GPS will be covered. The topic of global change serves as a capstone topic that integrates course concepts allowing for a comprehensive understanding of Earth surface processes. Lab section includes hands-on activities to reinforce lecture material and three field trips. Special lab fees apply.
Prerequisites: Placement in WRTG F111X or higher; placement in DEVM F105 or higher; or permission of instructor.
Attributes: UAF GER Natural Science Req
Lecture + Lab + Other: 3 + 3 + 0

GEOG F202 Natural Disasters
3 Credits
Offered Spring Odd-numbered Years
Natural disasters are usually the result of the build up and sudden release of energy in the solid earth, atmosphere, or biosphere. Natural "events" typically become disasters when intensive human activity alters the energy dynamics involved, or when the event endangers human life, property, or livelihood. This course examines the natural physical processes that affect the human environment in catastrophic ways. Case studies from around the world, will allow the examination of the complex factors that lead to natural disasters.
Prerequisites: WRTG F111X.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F203 World Economic Geography (s)
3 Credits
Offered As Demand Warrants
Study of the world's major economic activities: their physical and cultural bases, spatial growth and distribution patterns, and their significance in interregional and international development.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F207 Research Methods and Statistics in Geography
3 Credits
Offered Spring Odd-numbered Years
Introduction to basic data collection and analysis techniques used in geographic research. Explores a variety of qualitative and quantitative geographic research methods. Includes research design, real-world field-work issues, and hands-on use of tools and computer methods for analysis and visual display of spatial data. Students will gain an appreciation of the wide array of research methods and learn to critically interpret results and conclusions from both quantitative and qualitative perspectives.
Prerequisites: Placement in MATH F113X or MATH F151X; or permission of instructor.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F222 Fundamentals of Geospatial Sciences
3 Credits
Offered As Demand Warrants
This course is an introduction to the principles and applications of geospatial science (remote sensing, GIS and GPS). Fundamental concepts include electromagnetic radiations, map projections, basic computer science, data formats, map-reading and map-making, etc. Practical exercises include field data collections using GPS, photo-interpretation using image processing and GIS software packages.
Prerequisites: GEOG F111X or GEOS F101X or permission of instructor. Cross-listed with GEOS F222.
Lecture + Lab + Other: 2.5 + 1.5 + 0

GEOG F300 Internship in Geography
1-3 Credits
Offered As Demand Warrants
Supervised pre-professional experience in a business or agency (public or private). Open to students majoring or minoring in geography only. Course may be repeated for credit up to a maximum of 6 credits.
Prerequisites: GEOG F101X; junior standing with 3.0 GPA; permission of instructor; an approved internship plan.
Lecture + Lab + Other: 0 + 0 + 3-10

GEOG F302 Geography of Alaska (s, a)
3 Credits
Regional, physical and economic geography of Alaska. Special consideration of the state's renewable and nonrenewable resources and of plans for their wise use. Frequent class study of representative maps and visual materials.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F303 Geography of United States and Canada (s, a)
3 Credits
Offered Fall Even-numbered Years
In-depth examination of the natural, political, cultural, and economic characteristics of the U.S. and Canada and their major sub-regions. Explores contrasts in U.S. and Canadian historical, cultural and political geography; sources of national identity; and interactions with aboriginal peoples. Includes economic and political relationships between the two countries, and the role each has played in current and historical world affairs.
Prerequisites: An introductory geography course or background in United States or Canadian history, social science, or cultures; or permission of instructor.
Lecture + Lab + Other: 3 + 0 + 0
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<th>Course Code</th>
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<tr>
<td>GEOG F305</td>
<td>Geography of Europe</td>
<td>3</td>
<td>WRTG F111X; WRTG F211X or WRTG F213X; an introductory geography course or background in European history, social science, or culture; or permission of instructor.</td>
<td>(W, s) Spring Even-numbered Years</td>
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<tr>
<td>GEOG F306</td>
<td>Geography of Russia</td>
<td>3</td>
<td>GEOG F101 or HIST F100X; or a course in Russian history or culture; or permission of instructor.</td>
<td>(s, a) Spring Even-numbered Years</td>
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<tr>
<td>GEOG F307</td>
<td>Weather and Climate</td>
<td>3</td>
<td>GEOG F111X; or permission of instructor.</td>
<td>(n, a) Spring</td>
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<td>GEOG F309</td>
<td>Digital Cartography and Geo-Visualization</td>
<td>4</td>
<td>Permission of instructor.</td>
<td>(s) Spring Odd-numbered Years</td>
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<td>GEOG F311</td>
<td>Geography of Asia</td>
<td>3</td>
<td>WRTG F111X; WRTG F211X or WRTG F213X; an introductory geography course or background in Asian history, social science, or culture; or permission of instructor.</td>
<td>(W, s) Spring Odd-numbered Years</td>
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<td>GEOG F312</td>
<td>People, Places, and Environment: Principles of Human Geography</td>
<td>3</td>
<td>GEOG F101X; or permission of instructor.</td>
<td>(s) Fall</td>
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<td>GEOG F338</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
<td>Geographic data concepts including mapping systems, data sources, editing data, GIS analysis and computer mapping. Introduction to global positioning systems. GIS applications in natural resources management. Knowledge of PCs or Unix workstations desirable.</td>
<td>(s) Fall</td>
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<td>GEOG F339</td>
<td>Maps and Landscape Analysis</td>
<td>4</td>
<td>GEOG F111X; GEOG F338; or permission of instructor.</td>
<td>(n, n) Spring Even-numbered Years</td>
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<td>GEOG F405</td>
<td>Political Geography</td>
<td>3</td>
<td>Permission of instructor.</td>
<td>(s) As Demand Warrants</td>
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<td>GEOG F410</td>
<td>Geography of the Pacific Rim</td>
<td>3</td>
<td>GEOG F101X; GEOG F111X; or permission of instructor.</td>
<td>Fall Odd-numbered Years</td>
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GEOG F412 Geography of Climate and Environmental Change (a) 3 Credits
Offered Fall
Serves as a “synthesis” breadth course focusing on the geography of climate and environmental change. The major concepts of global climate processes and climate change will be reviewed on multiple time scales. The impacts of natural and anthropogenic environmental change will be examined through selected case studies and readings (e.g. permafrost, invasive species, sea ice, fire, urbanization).
Prerequisites: GEOG F307 or ATM F101X or ATM F401; or permission of instructor.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F418 Biogeography (a) 3 Credits
Offered Fall
This course explores the geography of life by examining linkages between climate, geomorphology, and ecological communities with emphasis on the biogeography of sub-Arctic, polar and alpine regions.
Prerequisites: BIOL/NRM F277 or BIOL F371; junior/senior standing; or permission of instructor.
Cross-listed with BIOL F418.
Stacked with GEOG F618; BIOL F618.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F420 Geopolitics of Energy (s) 3 Credits
Offered Spring Even-numbered Years
Examines the impacts that energy resource exploration, development, production, and transportation have on the internal politics of various countries in the world, and on international economic and political relationships. Explores the cultural, political, economic, physical, and historical underpinnings of contemporary geopolitical events involving energy resources, and explores possible future scenarios.
Prerequisites: Any of the following courses: GEOG F101X; GEOG F312; GEOG F405; NRM F101; NRM F304; PS F201X; PS F203; PS F321; PS F323; ECON F235X; ECON F335; ECON F349; ECON F463; junior standing; or permission of instructor.
Recommended: GEOG F101X.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F427 Polar Geography (s, a) 3 Credits
Offered Spring Odd-numbered Years
Comparative physical, cultural, political and economic geography of the Circumpolar North and Antarctic regions. Special attention to Arctic natural resource development, climate change in both polar regions and polar geopolitics.
Prerequisites: GEOG F101X or GEOG F111X; or permission of instructor.
Cross-listed with ACNS F427.
Stacked with GEOG F627; ACNS F627.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F430 Google Earth and Neogeography 3 Credits
Offered Spring
Neogeography describes a new generation of primarily web-based mapping techniques and technologies. This course teaches advanced use of some of the latest neogeography tools, such as Google Earth, Maps Engine and Earth Engine. The skills and techniques learned will be applicable in academic, government and industry settings as a way to produce dynamic visualizations from any dataset with a geospatial component, for purposes of data presentation, analysis and research.
Prerequisites: Junior standing with completed course work in geographic methods (GEOG F309; F339; GEOS F304; GEOS F422; GEOS F458; NRM F338; NRM F435); or permission of instructor.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F435 GIS Analysis 4 Credits
Offered Spring
GIS analysis of natural resources including spatial query, attribute query, vector, grid, image, topographic and network analysis techniques.
Cross-listed with NRM F435.
Lecture + Lab + Other: 3 + 3 + 0

GEOG F454 Comparative Farming and Sustainable Food Systems 3 Credits
Offered Fall
Principles of food systems geography and food security. Cross-cultural examination of dietary traditions, poverty, hunger, equity and food access and distribution. Comparison of multiple varieties and scales of agricultural systems in the context of social, ecological and economic sustainability. Considers Alaskan and other high-latitude food systems, including country food, wild game harvest and rural to urban nutrition transition.
Prerequisites: Junior standing; WRTG F211X or WRTG F213X; or permission of instructor.
Cross-listed with NRM F454 and CCS F454.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F460 The Dynamic Alaska Coastline 3 Credits
Offered Spring Even-numbered Years
Alaska’s diverse coastal system provides abundant ecosystem services and globally important resources. This course provides an interdisciplinary perspective on the dynamic coastal landscape of Alaska from Southcentral to the Arctic, and delves into the driving geological, oceanographic and climate processes shaping Alaska’s past and present coastline. Through a semester long research projects students will learn how to measure and map coastal changes associated with natural and human perturbations. An overnight field trip will serve as an active learning opportunity to integrate course knowledge with hands-on field work.
Prerequisites: Junior standing; GEOG F111X or GEOS F101; CHEM F105X or PHYS F103X; NRM F338 or equivalent GIS coursework.
Cross-listed with GEOS F460.
Stacked with GEOS F660; GEOG F660.
Lecture + Lab + Other: 3 + 0 + 0
GEOG F478  Ice Age Alaska  (a)  
3 Credits  
An overview of the paleoenvironments of Alaska including climate, glacier and biotic history including humans. Emphasis on events of the past that have left important legacies on present landscapes. The course begins with two weekend field trips and then surveys key literature describing Alaska's ice-age history. The focus is on Alaska and the Yukon, but topics will range more widely into other parts of the Arctic and its adjacent seas.  
Prerequisites: Senior standing in anthropology, biological sciences, earth science, geography, geoscience, or northern studies; or permission of instructor.  
Cross-listed with GEOS F478.  
Stacked with GEOG F678; GEOS F678.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F483  Research Design, Writing and Presentation Methods  (O, W, n)  
3 Credits  
Offered Fall  
This course is designed as a capstone research and professional development course for geography, natural resources management and geoscience majors. Students will focus on designing an individual research project and proposal. This course will provide real world active learning assignments that seek to integrate the knowledge and skills gained through undergraduate work, and prepare students for graduate and professional level projects. The course will focus on scientific writing, and the oral, written and graphical presentation of data and research results.  
Prerequisites: COJO F131X or COJO F141X; WRTG F211X or WRTG F213X; junior standing.  
Cross-listed with GEOS F483.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F488  Geographic Assessment and Prediction of Natural Hazards  
3 Credits  
Offered Fall Even-numbered Years  
Integrate aspects of physical geography with the human dimension via the study of the assessment and prediction of natural hazards. Guest speakers, case studies, and applied practical exercises will help students transition from content-based courses to applying their knowledge in "real-world" situations, using geographic tools in remote sensing and GIS.  
Prerequisites: GEOG F111X or permission of instructor.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F490  Geography Seminar  (O, W, s)  
3 Credits  
Offered Spring  
Discussion of geographic thought including past, present and future directions of the discipline. Contributions of geography to science, philosophy and ethics integrated through detailed review of contemporary literature and research.  
Prerequisites: COJO F131X or COJO F141X; WRTG F211X or WRTG F213X; senior standing; or permission of instructor.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F493  Special Topics  
1-6 Credits  
Lecture + Lab + Other: 1-6 + 0 + 0

GEOG F618  Biogeography  (a)  
3 Credits  
Offered Fall  
This course explores the geography of life by examining linkages between climate, geomorphology, and ecological communities with emphasis on the biogeography of sub-Arctic, polar and alpine regions.  
Prerequisites: Graduate standing or permission of instructor.  
Cross-listed with BIOL F618.  
Stacked with GEOG F418 and BIOL F418.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F627  Polar Geography  (a)  
3 Credits  
Offered Spring Odd-numbered Years  
Comparative physical, cultural, political and economic geography of the circumpolar north and Antarctic regions. Special attention to Arctic natural resource development, climate change in both polar regions and polar geopolitics.  
Prerequisites: Graduate standing; or permission of instructor.  
Cross-listed with ACNS F627.  
Stacked with GEOG F427, ACNS F427.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F656  Sustainable Livelihoods and Community Well-Being  
3 Credits  
Offered Fall  
Review the basic principles that govern the sustainability of systems and look at the cultural practices and individual behaviors that enhance or degrade sustainable livelihoods and community well-being. Emphasis is on understanding the historical context of ideas about sustainability, on understanding the nature and magnitude of the social, economic and ecological dimensions of contemporary change, and the "best practices" currently in place for communities to respond effectively to change. Cross-listed with NRM F656 and CCS F656.  
Prerequisites: Graduate standing or permission of instructor.  
Lecture + Lab + Other: 3 + 0 + 0

GEOG F660  The Dynamic Alaska Coastline  
3 Credits  
Offered Spring Even-numbered Years  
Alaska's diverse coastal system provides abundant ecosystem services and globally important resources. This course provides an interdisciplinary perspective on the dynamic coastal landscape of Alaska from Southcentral to the Arctic, and delves into the driving geological, oceanographic and climate processes shaping Alaska's past and present coastline. Through a semester long research projects students will learn how to measure and map coastal changes associated with natural and human perturbations. An overnight field trip will serve as an active learning opportunity to integrate course knowledge with hands-on field work.  
Prerequisites: Graduate standing or permission of instructor.  
Cross-listed with GEOS F660.  
Stacked with GEOG F460; GEOS F460.  
Lecture + Lab + Other: 3 + 0 + 0
GEOG F678  Ice Age Alaska  (a)  
3 Credits  
An overview of the paleoenvironments of Alaska including climate, glacier and biotic history including humans. Emphasis on events of the past that have left important legacies on present landscapes. The course begins with two weekend field trips and then surveys key literature describing Alaska’s ice-age history. The focus is on Alaska and the Yukon, but topics will range more widely into other parts of the Arctic and its adjacent seas. 
Prerequisites: Graduate standing in anthropology, biological Sciences, Earth science, geography, geoscience, or northern studies; or permission of instructor.  
Cross-listed with GEOS F678.  
Stacked with GEOG F478, GEOS F478. 
Lecture + Lab + Other: 3 + 0 + 0  

GEOG F692  Graduate Seminar 
1-3 Credits  
Topics in natural resources management and geography explored through readings, student presentations, group discussions and guest speakers.  
Prerequisites: Graduate standing or permission of instructor.  
Cross-listed with NRM F692.  
Lecture + Lab + Other: 1-3 + 0 + 0  

GEOG F692P  Graduate Seminar 
1-3 Credits  
Topics in natural resources management and geography explored through readings, student presentations, group discussions and guest speakers.  
Prerequisites: Graduate standing or permission of instructor.  
Cross-listed with NRM F692.  
Lecture + Lab + Other: 1-3 + 0 + 0  

GEOG F699  Thesis 
1-12 Credits  
Lecture + Lab + Other: 0 + 0 + 0