GEOGRAPHY (GEOG)

GEOG F101X  Expedition Earth: Introduction to Geography  (s)
3 Credits
Offered Fall, Spring and Summer
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 asynchronous online course focuses on the processes that shape the physical environment, especially in relation to Alaska. Climate change will serve as the capstone topic, which integrates course concepts with current challenges facing society. Labs will build research and skillsets through field and computer-based activities. Special fees will apply.
Prerequisites: Placement in WRTG F111X; placement in MATH F105.
Attributes: UAF GER Natural Science Req
Lecture + Lab + Other: 3 + 3 + 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, photointerpretation using image processing and GIS software packages.
Prerequisites: GEOG F111X or GEOS F101X.
Cross-listed with GEOS F222.
Lecture + Lab + Other: 2.5 + 1.5 + 0

GEOG F300  Internship in Geography or Geoscience  1-3 Credits
Offered Fall, Spring and Summer
Supervised pre-professional experience in a business or agency (public or private). Course may be repeated for credit up to a maximum of 6 credits.
Prerequisites: Junior or Senior standing with 3.0 GPA; an internship plan approved by the intern's faculty supervisor.
Cross-listed with GEOS F300.
Lecture + Lab + Other: 0 + 0 + 3-10

GEOG F302  Geography of Alaska  (s)
3 Credits
Offered Fall, Spring and Summer
Examines the environmental, political, cultural, and economic characteristics of Alaska and its sub-regions. Explores historical and contemporary political and economic relationships to Russia, the U.S., Asia, Circumpolar nations, and Alaska Native peoples. Also explores Alaska's contemporary resource development issues and environmental challenges, with an emphasis on impacts of climate change.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F303  Geography of United States and Canada  (s)
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.
Prerequisites: An introductory geography course or background in United States or Canadian history, social science, or cultures.
Crosslisted with GEOS F303.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F305  Geography of Europe  (W, s)
3 Credits
Offered Spring Even-numbered Years
In-depth examination of the natural, political, cultural and economic characteristics of Europe and its major sub-regions. Explores current political and economic transformations, historical and contemporary world influences, and issues of nationalism and identity.
Prerequisites: WRTG F111X; WRTG F211X, WRTG F212X, WRTG F213X or WRTG F214X; an introductory geography course or background in European history, social science, or culture.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F306  Geography of Russia  (s)
3 Credits
Offered Spring Even-numbered Years
Examines the processes that shape the places, regions and landscapes of Russia and the countries of the former Soviet Union. Explores the influence of Northern Eurasia's physical geography on Russia's social, political and cultural development; Russia's role in twenty-first century geopolitical and economic affairs; Russia's conflicting spatial identities are expressed.
Prerequisites: GEOG F101X or HIST F100X; a course in Russian history or culture.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F307  Weather and Climate  (n)
3 Credits
Offered As Demand Warrants
Weather systems and climate classification. Emphasis on weather system processes, measuring weather variables and physical processes of the atmosphere.
Prerequisites: GEOG F111X.
Lecture + Lab + Other: 3 + 0 + 0

GEOG F308  Geomorphology  (n)
3 Credits
Offered Fall Even-numbered Years
Surface features of the Earth and the processes which create or modify them. Application to Quaternary history, environmental science and related fields. Laboratory examination of topographic maps and aerial photographs, introduction to geomorphic measurements.
Prerequisites: GEOS F101X, GEOG F111X.
Crosslisted with GEOS F304.
Lecture + Lab + Other: 3 + 0 + 0
GEOG F311  Geography of Asia  (W, s)
3 Credits
Offered Spring Odd-numbered Years
Examines the natural, political, cultural, and economic characteristics of China, Japan, India-Pakistan, Southeast Asia, and the Asiatic countries of the Middle East. Explores historical and current political and economic transformations, historical, and contemporary world influences, and foundations of regional political, economic, and military conflicts.
Prerequisites: WRTG F111X; WRTG F211X, WRTG F212X, WRTG F213X or WRTG F214X; an introductory geography course or background in Asian history, social science, or culture.
Lecture + Lab + Other. 3 + 0 + 0

GEOG F312  People, Places and Environment: Principles of Human Geography  (s)
3 Credits
Offered Fall
Examines how human activity manifests itself on the earth’s surface through the geographic lenses of ethnicity, politics, industry, language, religion, and demographics. Explores spatial patterns, relationships and contrasts between places, origin and diffusion of traits, and human interactions with the environment.
Prerequisites: GEOG F101X.
Lecture + Lab + Other. 3 + 0 + 0

GEOG F338  Introduction to Geographic Information Systems
3 Credits
Offered Fall
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.
Prerequisites: Knowledge of PCs or Unix workstations desirable.
Cross-listed with NRM F338.
Lecture + Lab + Other. 2 + 3 + 0

GEOG F339  Change Detection in Arctic Systems  (n, n)
4 Credits
Offered Spring Odd-numbered Years
This course focuses on methods for measuring landscape change within Arctic Systems as well as the geomorphology of glacial landforms. A semester long research project, field and lab based activities, and a field trip will provide opportunities to learn about and experience the application of a variety of technologies.
Prerequisites: GEOG F111X or GEOG F101X; NRM F338.
Cross-listed with GEOS F339.
Lecture + Lab + Other. 3 + 3 + 0

GEOG F405  Political Geography  (s)
3 Credits
Offered As Demand Warrants
Geographical analysis of the evolution, structure, internal coherence and sources of strength of individual nation states, with emphasis on nations of the Pacific realm and Arctic periphery. Consideration of regional blocs, spheres of influence and potential for international cooperation.
Prerequisites: GEOG F101X.
Lecture + Lab + Other. 3 + 0 + 0

GEOG F418  Biogeography
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: NRM F277 or BIOL F371; junior/senior standing.
Cross-listed with BIOL F418.
Stacked with GEOG F618; BIOL F618.
Lecture + Lab + Other. 3 + 0 + 0

GEOG F422  Geoscience Applications of Remote Sensing  (n)
3 Credits
Offered As Demand Warrants
Remote sensing and its applications to geologic, environmental and physical sciences. Includes physical principles, digital image processing and hands-on project experience using satellite images for mapping and change detection. Course is not available for audit.
Prerequisites: PHYS F124X or PHYS F212X; junior standing.
Cross-listed with GEOS F422.
Lecture + Lab + Other. 2 + 3 + 0

GEOG F423  Geopolitics of Energy  (s)
3 Credits
Offered Fall Odd-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. Special Notes: Prerequisites: One of the following courses: GEOG F101X, GEOG F312, GEOG F405, GEOS F101X, NRM F101, NRM F403, PS F201X, PS F221X, PS F304, PS F323, ECON F235X, ECON F335, ECON F439 or ECON F463; junior standing.
Recommended: GEOG F101X.
Cross-listed with GEOS F423, NRM F423.
Lecture + Lab + Other. 3 + 0 + 0

GEOG F429  Geography of the Arctic and Circumpolar North  (s)
3 Credits
Offered Fall
An in-depth examination of the physical, cultural, social, political and economic geographies of the Circumpolar North. Special emphasis on the patterns and processes of contemporary environmental change, human adaptations to high latitude environments, Arctic geopolitics and security, and the spatial patterns of northern economic development.
Prerequisites: GEOG F101X or GEOG F111X.
Cross-listed with ACNS F429; GEOS F429.
Stacked with ACNS F629; GEOG F629.
Lecture + Lab + Other. 3 + 0 + 0
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>GEOG F430</td>
<td>Google Earth and Neogeography</td>
<td>3</td>
<td>Spring</td>
<td>Cross-listed with ACNS F429; GEOG F429; GEOS F429.</td>
<td>GEOG F480</td>
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<td>GEOG F435</td>
<td>GIS Analysis</td>
<td>4</td>
<td>Spring</td>
<td>Cross-listed with NRM F435.</td>
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<td>GEOG F445</td>
<td>Comparative Farming and Sustainable Food Systems</td>
<td>3</td>
<td>As Demand Warrants</td>
<td>Cross-listed with GEOG F435; GEOG F429; GEOS F429; NRM F338; NRM F435; WRTG F211X, WRTG F212X, WRTG F213X or WRTG F214X; junior standing.</td>
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<td>GEOG F458</td>
<td>Applications of GPS and GIS in Geophysics</td>
<td>(n)</td>
<td>As Demand Warrant</td>
<td>Cross-listed with GEOG F435; GEOG F429; GEOS F429; NRM F338; NRM F435; WRTG F211X, WRTG F212X, WRTG F213X or WRTG F214X; junior standing.</td>
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<td>GEOG F480</td>
<td>Climate Change Processes: Past, Present, Future</td>
<td>4</td>
<td>Odd-numbered Years</td>
<td>Cross-listed with ATM F480, GEOS F480.</td>
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<td>GEOG F483</td>
<td>Research Design, Writing and Presentation Methods</td>
<td>3</td>
<td>Fall</td>
<td>Cross-listed with GEOG F483.</td>
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<td>GEOG F490</td>
<td>Geography Seminar</td>
<td>3</td>
<td>Spring</td>
<td>Cross-listed with GEOG F483.</td>
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<td>GEOG F618</td>
<td>Biogeography</td>
<td>3</td>
<td>Fall</td>
<td>Cross-listed with BIOL F618.</td>
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<td>GEOG F629</td>
<td>Geography of the Arctic and Circumpolar North</td>
<td>3</td>
<td>Fall</td>
<td>Cross-listed with ACNS F629.</td>
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**Prerequisites:**
- Junior standing.
- Graduate standing.
- Junior or senior standing in major; ATM F401, GEOS F315, MSL F419 or MSL F481.
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- Junior standing.
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**Course Descriptions:**
- 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.
- GIS analysis of natural resources including spatial query, attribute query, vector, grid, image, topographic and network analysis techniques.
- Principles of food systems geography and food security. Cross-cultural examination of dietary traditions, poverty, hunger, equity and food access and distribution. Examination of dietary traditions, poverty, hunger, equity and food access and distribution.
- Discussions 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.

**Offered:**
- Fall
- Spring
- Odd-numbered Years

**Remarks:**
- Hands-on experience with recreational, mapping and survey-grade GPS receivers. Differential correction of GPS solutions using real-time and post-processing methods. Course is not available for audit.
- This capstone professional development class where students write a research proposal, participate in engagement activities, and produce professional documents that prepare students for graduate and professional careers. It is writing and oral intensive and will focus on the oral and written presentation of your work.
- 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.
GEOG F656  Sustainable Livelihoods and Community Well-being
3 Credits
Offered As Demand Warrants
Review principles governing the sustainability of systems, cultural practices and behaviors that enhance or degrade sustainable livelihoods and community wellbeing. Emphasis is on historical context of sustainability, nature and magnitude of the social, economic and ecological dimensions of contemporary change, and "best practices" for communities to respond effectively to change.
Prerequisites: Graduate standing.
Cross-listed with NRM F656 and CCS F656.
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.
Cross-listed with GEOS F660.
Stacked with GEOG F460;GEOS F460.
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.
Cross-listed with NRM F692.
Lecture + Lab + Other: 1-3 + 0 + 0

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