

# GEOGRAPHY

Spring 2018 course announcement



**GEOG 2092**

## Introduction to Human Geography

*Dr. Mike Dwyer*  
[mike.dwyer@colorado.edu](mailto:mike.dwyer@colorado.edu)

How do we make sense of humanity's place in the world, and our changing impact on it? What are the causes of uneven development, both between and within different regions? What tools do geographers use to represent and measure human spatiality, and how are these changing with the digital revolution?

Over the course of the semester, we will examine issues of globalization, urbanization, demography, agrarian transitions, environmental change, and international relations, along with concepts and methods for making sense of these topics. We will draw examples from multiple scales, from geopolitical blocs to neighborhood blocks, and from multiple sites around the world. Following Einstein's advice that everything should be "as simple as possible, but not overly so", we will examine the complexities that comprise human spatiality, while also conceptualizing them in ways that make them amenable to social change.

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**GEOG 3251**

## Mountain Geography

*Professor Peter Blanken*  
*blanken@Colorado.EDU*

The world's mountains are fascinating and mysterious landscapes. Created by geologic activity, shaped by water and ice, and transformed by vegetation and human activity, mountain landscapes offer a unique perspective into historical and current events. Using mountain landscapes as our study area, this course will examine the interactions and connections among key topics in physical and human geography. Daily presentations and frequent hands-on activities will apply geographic concepts to the Colorado Rockies as well as mountain ranges around the world. To explore our mountain landscapes, local examples will be used to examine how wildfire impacts local forests and human communities, and investigate how historic mining and continuing human activities have shaped the mountain landscapes in our backyard.

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**GEOG 3422**

## Political Ecology

*Dr. Mike Dwyer*  
[mike.dwyer@colorado.edu](mailto:mike.dwyer@colorado.edu)

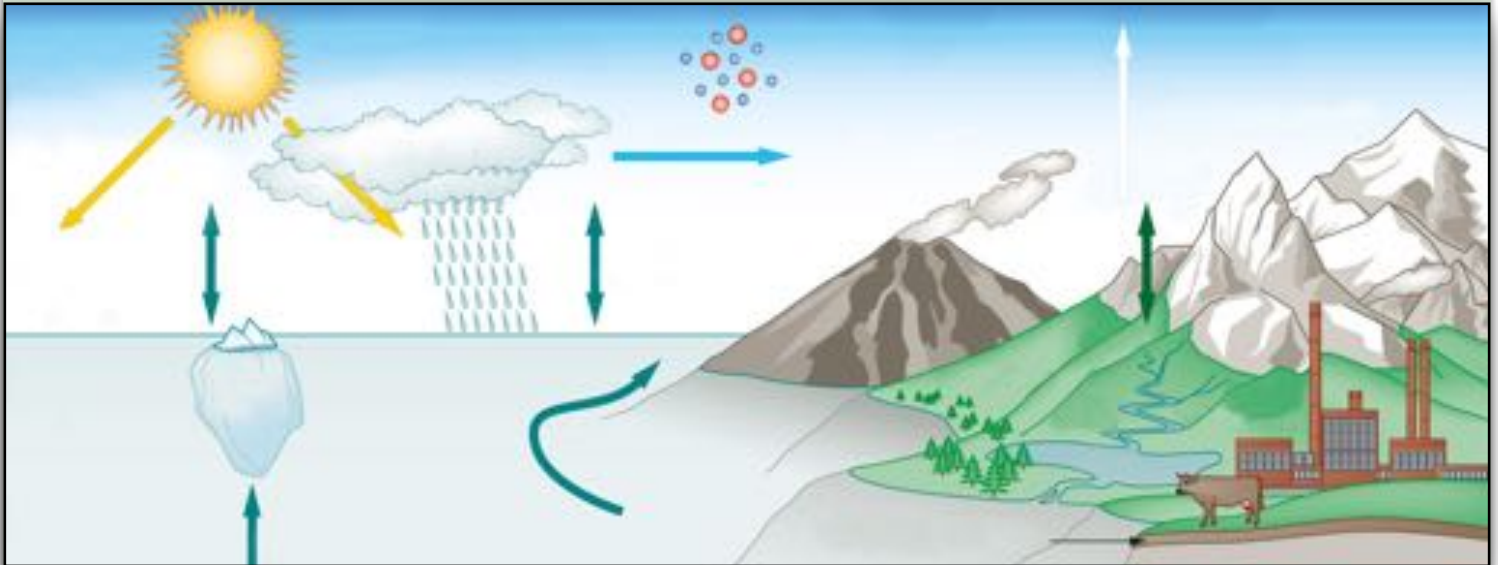
'The environment' figures centrally in our daily lives and academic pursuits, from concerns over climate change and biodiversity loss, to energy policy and agricultural development. Yet we rarely stop to consider how environmental concerns are tied to specific contexts, histories, and power struggles. In this class we do just that, through the lens of political ecology, a growing sub-discipline of Geography that aims to understand the links between people, the environment, and global political-economic processes.

A political ecology approach highlights the power dynamics involved in knowing, managing, and making claims on the environment, including those related to gender, class, indignity, nationality, and development and conservation planning. In this class we will discuss the creation of political ecology as a specific intellectual perspective, and explore its value for understanding a diversity of topics including forest, land, wildlife and water resources management, and economic development in both the global north and global south. You will leave the class with a more complete view of environmental debates and the guiding principles that make political ecology a strong and exciting field.

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# GEOGRAPHY

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**GEOG 3601**

**ATOC 3600/ENVS 3600**

## **Principles of Climate**

*Professor Peter Blanken*  
*blanken@colorado.edu*

This course describes the basic components of the climate system: the atmosphere, ocean, cryosphere, and lithosphere. We will investigate the basic physical processes that determine climate and the link between the components of the climate system. Emphasis is placed on the hydrologic cycle and its role in climate, climate stability, and global change. The theme throughout this course will be an examination of the importance of climate as one of the major forcing functions in environmental change. Both human-induced and natural climate variability will be covered.

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Between 1900 and 2010, the population of American urban areas grew from 30 to 250 million. Cities are now far larger and more unequal than in the past, and the

social landscape of the United States has radically changed. While urbanization is often associated with poverty, division and environmental degradation, many leading intellectuals claim the city as humanity's greatest invention. This class in urban and regional geography provides an introduction to these perspectives, and the general evolution of American cities over the twentieth century.

**GEOG 3612**

## Geography of American Cities

*Dr. Dylan Connor*  
[dylan.connor@colorado.edu](mailto:dylan.connor@colorado.edu)

A guiding question for this class is: how can every place be different, yet all cities are in some way alike? We will pursue this issue through geographical and historical perspectives on American urban development since the early twentieth century, with particular focus on social inequality, and economic and industrial change. These topics provide a valuable window into the different experiences of urbanization and regional development, while contending with the underlying synergies that are common to all American cities.

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# GEOGRAPHY

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GEOG 3742-001

## Power, Place, Culture: Biopolitics, War & The State of Exception

*Professor Najeeb Jan*  
[najeeb.jan@colorado.edu](mailto:najeeb.jan@colorado.edu)

Geography in its broadest sense is concerned with understanding the world and our place within it. But this “world” is not simply given; it is fashioned. This course is fundamentally concerned with understanding the process of ‘world-formation’ via a meditation on several abstract and yet essential concepts: **Power, Place/Space and Culture/Subjectivity**. We spend the bulk of the semester developing the conceptual skills to think through these key terms. We then deploy these new ways of (postmodern) critical thinking towards a concerted meditation on the very concrete problems of violence, war, militarism and exceptionalism. In particular we will explore the concept of biopolitics (biopower) which is concerned principally with the government of life: the relationship between life and power in the modern world.

A key emphasis of this seminar in critical geography will also be on the question of what it means to think critically. The primary conceptual grammars with which we shall pry open the crisis of the modern human condition, and through which we shall attempt to disclose something of our future possibilities, are linked to a rethinking of the concept of **power**. What is power and what dominant forms has power taken in the modern world? Critical geographic thinking is concerned not only with how we inhabit place, but also with investigating, and bringing to light, the very *presuppositions* that silently undergird our ways of knowing and acting in the world.

# GEOGRAPHY

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GEOG 3742-880

## Power, Place, Culture

*(honors and 3.3 GPA)*

Dr. Abby Hickcox  
[abby.hickcox@colorado.edu](mailto:abby.hickcox@colorado.edu)

Geography in its broadest sense is concerned with understanding the world and our place within it. But this “world” is not simply given; it is fashioned. This course is fundamentally concerned with understanding the process of ‘world-formation’ via a meditation on several abstract and yet essential concepts: **Power, Place/Space and Culture/Subjectivity**. We spend the bulk of the semester developing the conceptual skills to think through these key terms.

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GEOG 3812

Mexico, Central  
America, and the  
Caribbean

*Professor Fernando Riosmena*  
[fernando.riosmena@colorado.edu](mailto:fernando.riosmena@colorado.edu)



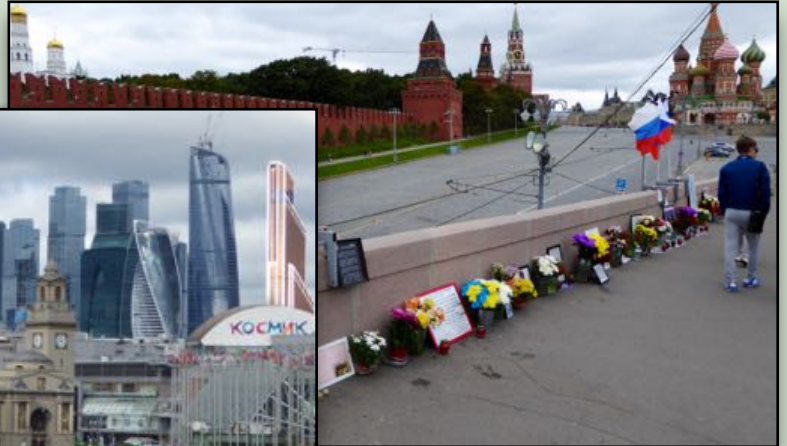
Do you want to delve into how globalization, foreign influence, and domestic political, social, and economic affairs have changed places in the region and whether they have propelled development, population change, and mobility within and out of it?

This course offers insights into the human geography of Latin America with special focus on changes in the political economy and population of Mexico, Central America, and the Spanish-speaking Caribbean nations.

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# GEOGRAPHY

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**GEOG 3882**

## Geography of the Former Soviet Union

*Professor John O'Loughlin*  
[johno@colorado.edu](mailto:johno@colorado.edu)

Russia has been in the news a lot recently, with much attention to Vladimir Putin and his actions. But Russia is a hugely complex place - and huge place.

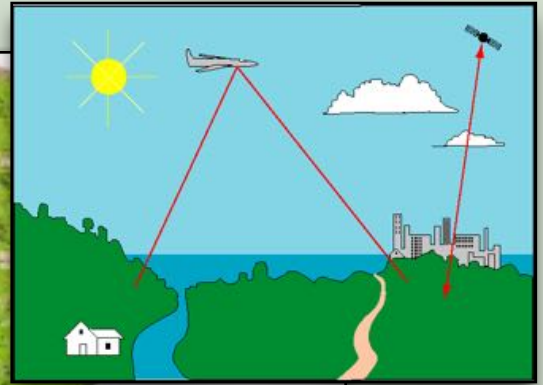
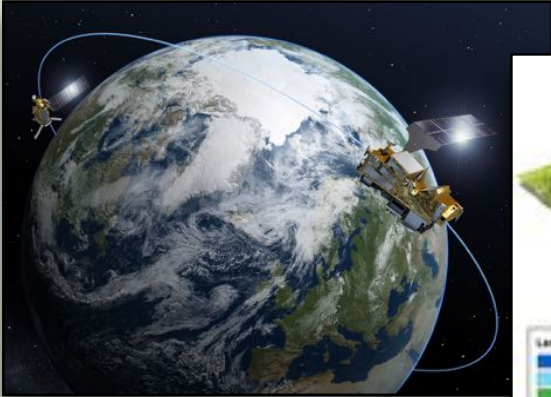
The course goals are to give students the background to understand contemporary events. We will focus on contemporary Russian geographies with special attention to political, social and environmental developments since 2000. Russian foreign policy and Russian interventions in the 'near abroad' (countries bordering Russia) will be examined as well as internal conflicts around religious identities, civil liberties, and environmental crimes.

Readings are a mix of academic articles and books/accounts for an educated public. Students will write a book review (of a selection of contemporary works), term paper, 4 short responses/reviews, and a take-home final exam.

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**GEOG/GEOL**

**4093/5093**

## **Remote Sensing of the Environment**

*Dr. John Adler*  
[john.adler@colorado.edu](mailto:john.adler@colorado.edu)

Global environmental change is one of the most pressing international issues of this century. There is a need to monitor the earth's vital signs from atmospheric ozone to sea level change.

Satellite data sets are critical for monitoring regional and global changes, determine natural variability of Earth systems and addressing fundamental global change issues. The course is designed to introduce students to the techniques of remote sensing measurements of environmental parameters from aircraft and satellite platforms. The course is based on the application of simple physical principles of electromagnetic radiation. Different sensing systems such as electro-optical systems, passive microwave systems, ranging systems, and scattering techniques will be discussed with applications for the atmosphere, cryosphere, lithosphere, and biosphere.

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# GEOGRAPHY

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**GEOG 4110/5100**

## **Advanced Remote Sensing**

*Professor Waleed Abdalati*  
[waleed.abdalati@colorado.edu](mailto:waleed.abdalati@colorado.edu)

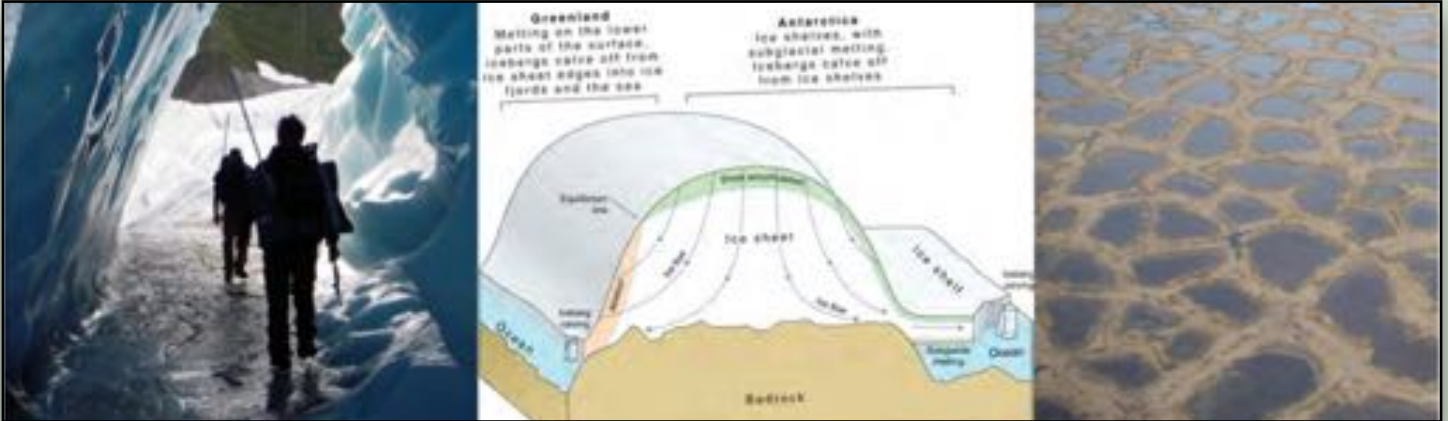
The context, perspective, and scale provided by remote sensing observations have made them an invaluable source of data for understanding the Earth System. In the prerequisite introductory course, Remote Sensing of the Environment (GEOG/GEOL 4093/5093), students learned some of the basic physical principals underlying remote sensing and were introduced to some of the key remote sensing capabilities and how they work. This class is designed to build on that foundation by delving deeper into the physics of remote sensing and examining image analysis techniques for extracting the maximum amount of information from remotely sensed imagery.

This course will enable in-depth examination of environmental issues and parameters that are generally local in nature, but global in significance.

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# GEOGRAPHY

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**GEOG 4261**

## Glaciers and Permafrost

*Professor Suzanne Anderson*  
[suzanne.anderson@colorado.edu](mailto:suzanne.anderson@colorado.edu)

### *Prerequisites:*

- GEOG 1011 or GEOL 1010
- GEOG/GEOL 4241 recommended (Geomorphology)

Nearly 70% of the freshwater on Earth is in glaciers and ice sheets, and 69% of the non-glacier fresh surface water is found in permafrost and ground ice. This class will explore the behavior and landscapes of ice in its surface (glacier) and subsurface (permafrost) manifestations. We will use physics to understand the thermal conditions in permafrost, which underlies 25% of the terrestrial land surface. This provides the framework for understanding periglacial landscapes, including landforms and processes unique to these settings, and ecological and carbon cycle impacts of warming.

The class will provide an introduction to glaciology, including glacier mass balance and ice mechanics. We will then study glacial erosion processes and the landforms they generate. The rapidly changing behavior of the Greenland ice sheet and the West Antarctic ice sheet will be explored. Students will have opportunities to research particular problems in each realm, such as frost heave, ice wedge polygons, jökulhlaups, subglacial lakes, surging glaciers, or microbial ecosystems in ice. There will be problem sets, journal articles to read and dissect in student-led seminars, and student presentations in class.

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# GEOGRAPHY

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**GEOG 4321**

## **Snow Hydrology**


*Professor Mark Williams*  
[markw@colorado.edu](mailto:markw@colorado.edu)

Are you interested in the various processes related to snow in mid-latitude and polar areas? You will learn the physics and chemistry that underlie processes such as snow metamorphism, and apply this knowledge to real situations, including calculation of basin storage of water, runoff rates, acid snow, and avalanche dynamics.

The course will cover snow formation in the atmosphere, snow accumulation and distribution, snow metamorphism, avalanche dynamics, snowmelt and runoff, remote sensing of snow properties, and case studies in the Rockies and Sierra Nevada.

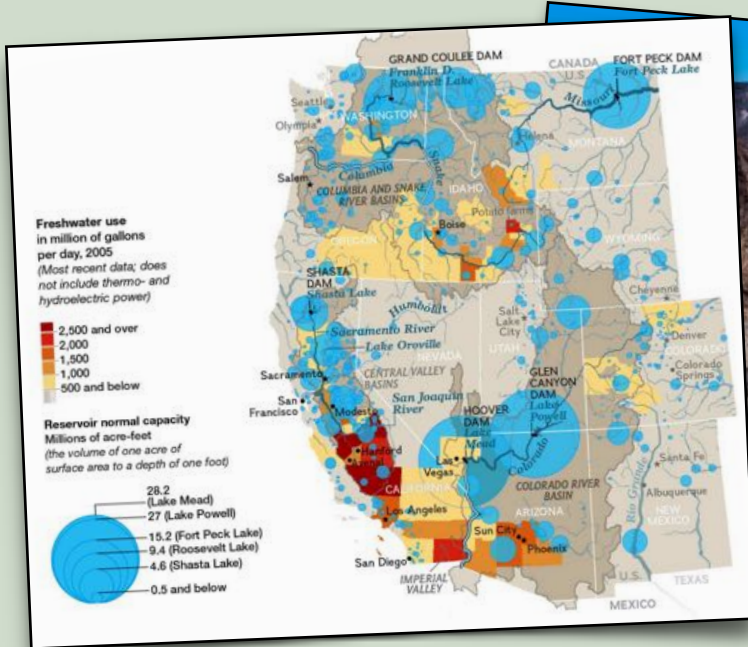
Prerequisites are a physical geography course or equivalent, and a parametric statistics course.

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**GEOG 4501/5501**

## Water Resources and Management of the Western U.S.

*Dr. Paul Lander, LEED AP*  
*Paul.W.Lander@colorado.edu*

This course is an overview of the human dimensions of water: the law, policy, economics, management, and valuation of water in the western United States.

The West has a completely different legal structure than the East for the administration of water, and a culture that has developed different methods of management and organization around the role of water in our daily lives. We regularly feature working professionals to broaden the range of discussion as we look at the effects of water use, climate change, population, and agriculture on this fascinating, and important, resource.

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Action Item	Month 1	Month 2	Month 3	Month 4
Contract Approval - EIR Consultant	★			
Receive Project Description	★			
Preparation of Technical Studies				
Receive Application Prepared		★		
Technical Studies				
Prepare View Simulations (4 wks)				
Review and Comment on Technical Studies				
Revisions to Technical Studies				
Initial Study / Notice of Preparation / Notice of Intent Process				
Prepare Draft Initial Study & NOP				
City Review of IS & NOP				
Corrections to NOP & NOP Mail Out				
Circulation Period for NOP (4 wks)				
Conduct Public Scoping Meeting			★	
Prepare Administrative & Draft EIR				
Prepare Administrative Draft EIR & Print				
1 <sup>st</sup> City Review of Administrative Draft EIR (6 wks)				

**GEOG 4503/5503**

## GIS Project Development

*Professor Barbara Buttenfield*  
babs@colorado.edu

Did you finish Cart 1 or GIS 1 and want to tackle a mapping or GIS project with real data, to try out your skills? Maybe you're not really confident that you can get the right data, keep the project manageable, solve all the problems that might crop up, and finish it on time? Maybe it's the mapping component of an Honor's or Master's thesis. You're excited about the project but unsure about how to get it started and completed on schedule. Or maybe you're thinking about going out into industry or nonprofit work after you graduate, and you want a better grasp of team dynamics, how to lead a team, how to delegate tasks without overloading team members. A lot of GIS and cartography work is accomplished by teams, with each member bringing a special set of skills to the group.

In either case, this course can provide the information you need, and offers an opportunity to work through a project from start to finish, with help and guidance on technical aspects, on conceptual approaches, and on communicating results to your peers, supervisors, or stakeholders. GIS project management encompasses both problem design and analysis, and interpersonal factors that affect professional relationships. Project management is also a discipline that has matured outside of, but can be incorporated into, geospatial technology. The class will intermix lectures with student-run projects in mapping or GIScience. Lectures will walk through all stages of a project from creating an initial idea to project planning and scoping, building a workplan with a timeline, creating a (hypothetical) budget, and evaluating your own project's progress. We'll work through each component in an organized manner. Example projects and scenarios will be presented to show how these steps help to organize your work. We'll talk about how individuals and groups work most effectively in specific project situations. Each student will propose an individual project, search for and collect data, create a workplan, process the GIS or mapping data, and prepare a poster for presentation to the class at semester's end. We will also spend time in class running brainstorming sessions, where each of you can bring in a problem on your specific project that you need help with. The class will work together as a group to discuss options and alternatives that might help you solve it.

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# GEOGRAPHY

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**GEOG 4742**

## Topics in Environment & Society: Geographies of Food and Agriculture

*Kaitlin Fertaly, PhD Candidate*  
[kaitlin.fertaly@colorado.edu](mailto:kaitlin.fertaly@colorado.edu)

Audrey Richards, the great British anthropologist, once pointed out that the need to eat is the most basic and important of all human drives. We need food more frequently and more urgently than we need sex. The central place of food in our lives has made food one of the major foci of human existence. How we grow, process, distribute, and consume our food often defines us as a society. In our society, the food system has become the target of enormous critique in the last ten years, and also enormous innovation. How does what we eat define us? What does it mean to eat food made in factories and advertised on television, or to seek out "fresh," local or organic food? How do we use food to define ourselves as men and women, as Americans or punks, or Chinese, as children or adults? What does it mean to eat too much, or too little, and how does it define us as social beings?

These are the key questions we'll be asking in this course. This course approaches food from two perspectives. The first is the political economy of food. We will look at food as a commodity, and study where it comes from, how it connects members of different societies and social groups as it travels along the commodity chain, and how it creates social and geopolitical inequalities. We will also study food as culture, including the symbolic meanings of different foods in various world cultures, the role of food in defining gender, national identity, and social class. We'll look at food, memory and place, the relationship between food spaces and gender/race, and the role of food in transnational culture.

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# GEOGRAPHY

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**GEOG 4762**

**Political Islam**

*Professor Najeeb Jan*  
*najeeb.jan@colorado.edu*

“Political Islam” dominates national and global news with popular revolutions, dictatorships, terrorism, jihad, suicide bombings and beheadings, perpetually in the headlines. The “Muslim World” has become synonymous with war, conflict, crisis and violence. As such “Islam,” particularly after 9-11, has become the definitive ‘Other’ of America, driving both the logics of the National Security State and the broader public imaginary of the enemy.

Therefore a nuanced, methodologically reflexive and critical understanding of this phenomenon is not only topical but also of vital importance for understanding key dynamics of power in the contemporary world.

# GEOGRAPHY

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*Geomorphology students examine the headscarp of a recent earth flow in north Boulder*

## GEOG/GEOL 4241

### Principles of Geomorphology

**Professor Robert Anderson**  
[robert.s.anderson@colorado.edu](mailto:robert.s.anderson@colorado.edu)

This class studies the surface of the Earth and the processes which shape physical environments. Landscapes reflect the underlying geologic and erosional histories, both of which are affected by climate and the biosphere. At the surface, rock is transformed and sculpted by water, wind, ice, and biota, all fueled by solar and chemical energy and pulled by gravity. Our study will be built around examining these earth-shaping processes, especially those we can understand with simple physics. The course introduces glaciers, crustal-scale geomorphology, dating with cosmogenic isotopes, slope processes, rivers, hill-slope hydrology, and the effects of wind.

Like much of physical geography and the earth sciences, the material is based in physics and chemistry, and therefore you must be prepared to think quantitatively. We will use math in this class; calculus 1 is a prerequisite. Homework sets are built around quantitative problem solving. The goal with these exercises is to predict some aspect of the behavior of the system. Laboratory exercises will provide experience making measurements and simple calculations relevant to surface processes, and will include field projects to introduce real world systems. We will also read a few technical papers from journals to introduce you to the style of communication among scientists. You will write a short paper and give a presentation, which will serve to bring about learning on your own and from your classmates.

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# GEOGRAPHY

spring 2018 course announcement



**GEOG / ASIA 4842**

## **Global Frontiers in Southeast Asia**

*Dr. Mike Dwyer*  
[mike.dwyer@colorado.edu](mailto:mike.dwyer@colorado.edu)

How did frontier landscapes give way to modern territorial boundaries? How is access to territory changing today as a result of globalization, regional integration, and national development aspirations?

This course examines these questions through the case of Southeast Asia. Over the course of the semester, we will study examples from three key modern periods: the colonial encounter of the 17th-19th centuries, territorial nation building during the 19th and 20th centuries, and globalization/regionalization of the late 20th century and today. Looking comparatively at how frontier spaces emerge, and how they are treated and conceptualized by various local and faraway actors, provides an entry point to contemporary questions about economic development, human security, environmental governance and the future of international relations.

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