

# GEOGRAPHY 1750

## Greatest Snow on Earth: The Geography of Skiing

GEOG 1750- 001 3 credit hours

SPRING SEMESTER 2019 SYLLABUS



No Small Screens (laptops, tablets, smart phones) in the Classroom, Please!

Contact Information: Larry Coats, Assistant Professor, Gardner Commons (GC) 4727, 801-587-9325

Office hours: 9:30-10:30 AM Tuesday, 12:30-1:30 PM Thursday, or by appointment

**Course Reserve Text:** *Mountain Geography* by Price, Byers, Friend, Kohler & Price, University of California Press 2013. ISBN: 9780520254312. This book can be downloaded or read on-line.

There will also be assigned papers. These readings are accessible through Canvas for this course. In addition, lecture notes and other important resources will also be posted on Canvas.

You will need to purchase a TurningPoint Technology Audience Response Clicker from the Bookstore.

GEOG 1750 meets University of Utah General Education requirement Intellectual Explorations- Physical and Life Sciences (SF). The only prerequisite for GEOG 1010 is a passion for sliding on snow and curiosity about the world.

### Catalog Description of Course

**Greatest Snow on Earth: The Geography of Skiing** (3) Skiing (or snowboarding) can variously be described as a sport, a lifestyle, a career, or a passion. From its roots as a method for traversing the winter terrain of Scandinavia, human-powered snow sports have grown into a \$67 billion industry involving over 24 million participants in this country alone. But at its core, skiing is about the unique interaction between mountainous landscapes, regional climate patterns, and technological innovation. This course studies the activity of skiing through the lens of geographic inquiry, as geography provides the tools to investigate all the critical aspects of the sport. The goal of this course is to introduce students to the science of geography, by investigating the physical processes and cultural dynamics of the wide variety of ski disciplines in use today.

**Introduction and Objectives** This course provides a broad overview of ski-related topics, addressing the key question of why ski areas are located where they are. Our investigations will include concepts from physical geography (mountain building processes, mountain weather and climate, anthropogenic climate change) and human geography (the evolution of ski activities over the ages, transportation infrastructure, economics, and the current and potential impact of climate change on the ski industry). As background for the topics to be discussed, geographic concepts such as Earth's spheres, system science, geographic coordinate systems, remote sensing, plate tectonics, biogeography, and natural hazards will be explored. The overall focus will be to understand these concepts through the application of geographic science, with the emphasis on the fundamental themes of location, place, regions, and human-Earth relationships. At the end of the course, students should be able to understand the physical processes that create mountains and mountain environments, the factors involved in mountain climate and weather, how cultural processes have led to the modern era of skiing, and how human-induced climate change imperils the future of the activity. The students will also explore critical issues such as ski resort impacts on the biosphere and humans, vulnerability and adaptation by the industry to climate change, and risk of mountainous regions to extreme weather events.

### Course Suggestions

This class is intended as an introduction to geographic science, intended to provide sufficient background for continuing study in any discipline of human or physical geography. In addition to learning discipline-specific information, I hope you will practice all your well-developed academic skills including the following: 1) using critical thinking skills to assess the validity of information, 2) taking good quality notes, 3) getting the most out of what you read in the textbook and assigned readings, 4) preparing well for tests, 5) finding information on your own, and possibly most importantly 6) how to think about the world with a geographic understanding. For many of you, this class may be your first (or only) science course, and studying for science may emphasize different skills than those with which you are most familiar. Geography is, for the most part, an observable discipline -it is with us and around us all the time. Because of this, you can often picture the various concepts. I believe that if you can draw, diagram or map the various concepts, etc., you will automatically understand it too. If something is difficult to comprehend, remember, or convey, try drawing it. Draw it, label the various parts, and annotate it -this provides a picture of the subject that should be in your mind even during "exam blackout"!

### Learning Objectives

By the end of *GEOG 1750 Geography of Skiing* students will be able to explain the role of science in understanding the physical aspects of Earth's mountainous regions. Concerning geography basics, students will be able to explain the concepts of system science, and place the Earth's spheres within a system science framework. They will be able to locate themselves on the globe using a variety of locational systems, interpret various remote sensing data, and to synthesize congruent or conflicting data to produce a coherent picture of system changes as detected from space. Students will also be able to explain the basics of mountain economies, especially in relation to ski resorts and ski tourism. Students will be able to evaluate the scientific evidence for plate tectonics, and integrate the concept of plate boundaries with the locations of mountains, ski resorts, and snow covered regions. In relation to weather and climate, students will be able to explain how the global climate system is impacted by mountainous regions, and how mountain weather differs from lowland or maritime weather. Students will be able to apply the concept of island biogeography to mountainous regions, and explain how mountains are similar to and differ from islands concerning the distribution of species. Concerning mountain hazards, students will be able to list the preeminent hazards that impact developments in mountainous regions, and explain in detail how snow avalanches occur, and how this hazard may be mitigated for 1) backcountry travelers, and 2) ski resorts and commercial developments. Students will be able to describe the broad outlines of the history of skiing and

ski resort development, and apply that historical knowledge to the legacy that persists in the alpine ski tourism and economics today. In reference to ski resort operations, students will be able to explain the various economic strategies ski resorts and the ski businesses use to compete on the market place, and how ski injuries have changed through the development of modern ski equipment. Finally, students will be able to describe and explain the causes of climate change, and the possible impacts on the ski industry of projected changes. Students will evaluate the roles of scientists, ski industry representatives, and individuals in addressing the ethical and social responsibilities of mitigating anthropogenic climate change, and devise strategies that the individual or institutions could adopt to reduce the future impacts.

Students will demonstrate the accomplishment of these objectives by correctly answering quiz and test questions that require definitions for key concepts (*recalling information*), explanations for important processes (*restating in your own words*), interpretations of datasets (*analysis of scientific data*), and evaluation of multiple lines of evidence to synthesize unique viewpoints on solutions (*problem solving*). In addition, students will complete a research project assignment that will require the collection of snowfall data, analysis of their own data and calculations of snow-water equivalence, interpretation of their findings graphically and in text, and explanation of how their data fit into the historical climate and weather patterns of their study area. The overall goal of this class is produce a group of citizens well-educated about how geographic inquiry can be focused on a human activity such as the act of skiing, and to serve as an introductory class for future geography majors.

### Essential Learning Outcomes

Essential Learning Outcomes (ELOs) are a set of academic skills that are designed to prepare students for twenty-first century challenges during the course of their general education coursework ([U of U General Education Guidelines](#)). During the semester, we will work specifically on fulfilling the requirements of several of these outcomes and evaluate the results as described below: ✨ **Inquiry and Analysis**-The ski area snowfall and snow water equivalence research project and report will require the development of a scientific hypothesis, the collection of primary data, organization, presentation, analysis of those data to produce a report on topographic, climatic, and economic variables that impact modern ski resort locales. The final report, including graphic displays of the data and analysis will be used to assess this outcome. ✨ **Critical Thinking and Reasoning**-Critical thinking and reasoning are basic to understanding and applying the scientific method as a way of discovering the operation of complex, Earth-system processes. Throughout the course scientific data will be presented, discussed, and considered as we develop a model of the physical and cultural attributes of mountainous regions and ski tourism economies. These skills will be assessed with quizzes and exams that include short and extended answer responses, as well as in-class discussions. ✨ **Information Literacy**-In the course of completing the research project, students will be required to develop a research question, access the information needed to collect the data and interpret the patterns to address the question, and evaluate the quality of data and information available from a wide variety of commercial, government, private, and peer-reviewed sources. The final report will demonstrate the accomplishment of this outcome, and will conform to all ethical and legal use of information as well as demonstrably avoiding plagiarism.

### RECOMMENDATIONS FOR SUCCESS IN THIS CLASS:

- 1 Come to class and take notes!
- 2 Study figures carefully, annotate them, make your own.
- 3 Don't multi-task!

Please do not use laptops (or tablets or smart phones) during class. My goal is to provide a better learning environment for you by minimizing distraction. If you need to use your phone for an emergency during class, please let me know and accommodations will be made.

### Grading

Final grades are earned on the basis of the overall accumulated points. There will be numerous unannounced quizzes, homework assignments, two equally weighted mid-term exams, and one cumulative final exam.

Quizzes & Homework	100 points (25%)
Exam #1	100 points (25%)
Exam #2	100 points (25%)
Final exam (cumulative)	<u>100 points (25%)</u>
Total 400 points	

NO EXTRA CREDIT is offered in this course, with the exception of bonus questions on exams. I DO NOT accept late work, unless prior arrangements have been made.

If you ever have questions or problems relating to this course (or other classes for that matter!), please see me at your earliest convenience. **Most of these situations can be positively handled if discussed early!**

**\*\* The instructor reserves the right to make additions, deletions, and modifications to the syllabus and course requirements with due notification to the students enrolled in the class.**

A (4.0)= 94% (370-347 points) A- (3.7)= 90% (346-333 points)	Excellent performance, superior achievement
B+ (3.3) 85% (332-314 points) B (3.0) 82% (313-303 points) B- (2.7) 80% (302-296 points)	Good performance, substantial achievement
C+ (2.3) 75% (296-277 points) C (2.0) 72% (276-266 points) C- (1.7) 70% (265-259 points)	Standard performance and achievement
D+ (1.3) 65% (258-240 points) D (1.0) 62% (239-229 points) D- (0.7) 60% (228-222 points)	Substandard performance, marginal achievement
E (0.0 points) below 60% (<222 points)	Unsatisfactory performance and achievement

“Powder snow skiing is not fun. It's life, fully lived, life lived in a blaze of reality.”  
~Dolores LaChapelle, avalanche forecaster and snow scientist

### TENTATIVE SEMESTER SCHEDULE

DAY DATE	DISCUSSION TOPIC	READINGS
T 1/8	Introduction to class	
Th 1/10	Geographic science, geolocation	Lecture notes/posted links
T 1/15	Intro to mountains, plate tectonics	Ch. 1- (pg. 24-31)
Th 1/17	Plate tectonics	Ch. 2- (pg. 44-65)
F 1/18	<i>Last day to drop/ delete</i>	
M 1/21	<b><i>Martin Luther King Day</i></b>	
T 1/22	Plate tectonics	Ch. 2- (pg. 65-77)
Th 1/24	Guest speaker- Matt Liapis (Mapsenergy.com)	Class notes
T 1/29	Principal mountain types	Ch. 2- (pg. 77-98)
Th 1/31	Atmospheric energy/ global temperatures	Ch. 3- (pg. 105-118)
T 2/5	Atmospheric & ocean circulation	Ch. 3- (pg. 118-136)
Th 2/7	<b>****Exam 1****</b>	
T 2/12	<i>All I Can</i>	Ch. 3- (pg. 162-181)
Th 2/14	Atmospheric water & weather	Ch. 3- (pg. 181-187)
M 2/18	<b><i>President's Day</i></b>	
T 2/19	Climate systems & climate change	Ch. 3- (pg. 138-162)
Th 2/21	Climate systems & climate change	High Country News Last Resort

T 2/26	Snow & ice	Ch. 4- Snow, Ice, Avalanches, Glaciers
Th 2/28	Guest speaker- Trent Meisenheimer (UAC)	Assigned readings
T 3/5	Snow & Avalanches	Ch. 4- Snow, Ice, Avalanches, Glaciers
Th 3/7	Snow & avalanches	Ch. 4- Snow, Ice, Avalanches, Glaciers
F 3/8	<i>Last day to withdraw from classes</i>	
T 3/12	<b><i>Spring Break -NO CLASS</i></b>	
Th 3/14	<b><i>Spring Break -NO CLASS</i></b>	
T 3/19	Glaciers	Ch. 4- Snow, Ice, Avalanches, Glaciers
Th 3/21	****Exam 2****	
T 3/26	Glaciers	Ch. 4- Snow, Ice, Avalanches, Glaciers
Th 3/28	Guest speaker- Dave Fields (Snowbird)	Assigned readings
T 4/2	History of skiing	Ch. 9- Attitudes Towards Mountains
Th 4/4	History of skiing	Huntford 2008 (Chapter 2)
T 4/9	History of skiing- 10 <sup>th</sup> Mtn. Division	Assigned readings
Th 4/11	Future of skiing	Ch. 12- Sustainable Mt. Development
T 4/16	Ski resort adaptation to climate change	Scott & McBoyle 2007; Yang & Wan 2010
Th 4/18	Ski resort adaptation (continued)	Rivera & de Leon 2004
T 4/23	Course conclusion & synthesis	
T 4/24	UU Reading Day	

**\*FINAL EXAM: THURSDAY, APRIL 25TH, 1:00 PM in this classroom.**

#### **University of Utah Attendance Policy**

The University expects regular attendance at all class meetings. You are not automatically dropped from your classes if you do not attend. You must officially drop your classes by the published deadline to avoid a "W" on your record.

You are responsible for satisfying the entire range of academic objectives, requirements and prerequisites as defined by the instructor. If you miss the first 2 class meetings, or if you have not taken the appropriate requisites, you may be required to withdraw from the course.

If you are absent from class to participate in officially sanctioned University activities (e.g. band, debate, student government, intercollegiate athletics), religious obligations, or with instructors approval, you will be permitted to make up both assignments and examinations.

#### **University of Utah Standards of Academic Conduct**

In order to ensure that the highest standards of academic conduct are promoted and supported at the University, students must adhere to generally accepted standards of academic honesty, including but not limited to refraining from cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating.

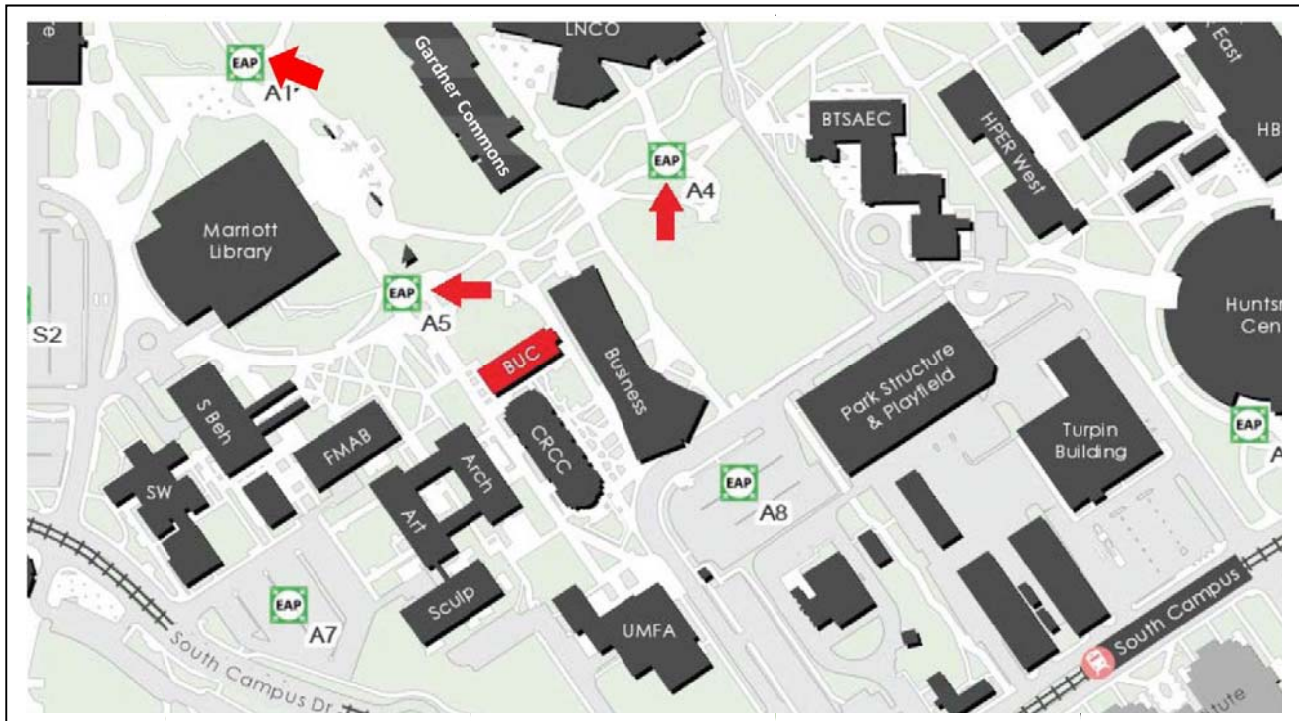
University of Utah definition: "Plagiarism" means the intentional unacknowledged use or incorporation of any other person's work in, or as a basis for, one's own work offered for academic consideration or credit or for public presentation. Plagiarism includes, but is not limited to, representing as one's own, without attribution, any other individual's words, phrasing, ideas, sequence of ideas, information or any other mode or content of expression.

#### **University of Utah Center for Disability Services**

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services (<http://disability.utah.edu/index.htm>), 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.



# CSBS EMERGENCY ACTION PLAN



## BUILDING EVACUATION

EAP (Emergency Assembly Point) – When you receive a notification to evacuate the building either by campus text alert system or by building fire alarm, please follow your instructor in an orderly fashion to the EAP marked on the map below. Once everyone is at the EAP, you will receive further instructions from Emergency Management personnel. You can also look up the EAP for any building you may be in on campus at <http://emergencymanagement.utah.edu/eap>.



## CAMPUS RESOURCES

**U Heads Up App:** There's an app for that. Download the app on your smartphone at [alert.utah.edu/headsup](http://alert.utah.edu/headsup) to access the following resources:

- **Emergency Response Guide:** Provides instructions on how to handle any type of emergency, such as earthquake, utility failure, fire, active shooter, etc. Flip charts with this information are also available around campus.
- **See Something, Say Something:** Report unsafe or hazardous conditions on campus. If you see a life threatening or emergency situation, please call 911!

**Safety Escorts:** For students who are on campus at night or past business hours and would like an escort to your car, please call **801-585-2677**. You can call 24/7 and a security officer will be sent to walk with you or give you a ride to your desired on-campus location.