

GEOGRAPHY 547: **MOUNTAIN AND HIGHLAND GEOGRAPHY**

DEPARTMENT OF GEOGRAPHY, PLANNING & RECREATION  
COLLEGE OF SOCIAL & BEHAVIORAL SCIENCES

**General Information:**

Course: Geography 547: Mountain and Highland Geography, 3 hours  
Term: fall, 2004  
Classroom: Bldg 82, SWFSC room 135  
Time/day: 11:30 am-12:20 pm MWF  
Instructor: Dr. Leland Dexter  
Office hours: 10:20-11:10 am & 12:40-1:30 pm M & W or by appointment  
Office: Bldg 82, SWFSC room 205  
Phone: 523-6535  
E-mail: lee.dexter@nau.edu  
Web: <http://www.geog.nau.edu/~lrd>

**Prerequisites:**

Graduate or senior standing  
One natural science and one cultural topic class  
General physical and/or cultural geographic background will be helpful

**Course Overview:**

Mountain and Highland Geography explores the physical and cultural aspects of high relief and/or high altitude environments. Such environments are unique in many ways including generally steep slopes, generally cooler climates, generally higher precipitation often in the form of winter snow. The combination of these unique physical conditions has profoundly influenced the way in which humans have adapted to and use these environments. We will explore this environment by way of lectures/presentations, readings, discussions, field trips and GIS exercises.

**Course Scope:**

Global scales: At the risk of oversimplification, we will learn general principles applied to mountains and mountain people worldwide. Realize that almost every mountain valley will need its own specific analysis!

Regional scales: The San Juan Mountains of southwestern Colorado with their varied small communities. It is here that we will focus on a specific mountain system/human inhabitant interaction.

Local scales: The San Francisco Peaks and Flagstaff as a highland-mountain system.

**Course Objectives:**

By the end of this course students should:

- Be able to describe, diagram, and analyze the physical characteristics of, and processes active within, mountain environments.
- Be able to describe, diagram, and analyze human adaptation to and interaction with mountain environments
- Be able to present results of a modest original research project on a mountain topic.
- Be able to critically evaluate writings on mountain topics
- Be able to apply GIS techniques to mountain topics
- Be able to spend a little time in a mountain location and begin to assess issues facing that particular mountain system
- Appreciate the beauty and power of mountain environments

### **Course Requirements:**

Participation as a class member  
Preparation and discussion of outside readings  
Completion of 3 GIS based exercises  
Completion of one comprehensive exam  
Completion of a research project to be presented orally to the class, partially peer graded  
Participation in 2 field trips, one 4 days and the other 1 day. Estimated cost of the 4-day field trip is \$190 excluding meals. The \$190 will be paid to Ms. Debbie Martin sometime during the first three weeks of class.

### **Course Policies:**

This course incorporates lectures, readings, discussions, and applied GIS-based exercises. A significant portion of this course is conducted as a graduate level seminar/presentation course. Students are expected to be active participants in organizing and conducting some of the day-to-day activities of the course and will be called upon to be presenters as well as audience. In addition, some of the points reflect grading by your peers. While a large amount of collaboration among students is encouraged in this class, each student is expected to complete his or her own assignments. Anyone found plagiarizing will fail the course.

### **Grading:**

General class participation = 100 points  
Outside reading discussion organization = 50 points  
Research project and presentation = 100 points, 50% peer graded  
Each GIS exercise = 50 points each (150 total)  
Four day field trip to Silverton = 150 points (based on attendance)  
One day field trip = 50 points each (based on attendance)  
One comprehensive exam = 100 points  
Total possible, approximately 700 points.  
A > 90%, B > 80%, C > 70%, D > 60% F < 60% total possible points.

### **Materials:**

Dexter, L., 2004, *Mountain and Highland Geography*,  
Scholarly Publishing (required)

Parish, R., 2002, *Mountain Environments*,  
Prentice Hall, New York (required)

Allan, N. et. al., 1988, *Human Impact on Mountains*,  
Rowman and Littlefield, Lanham, Maryland (recommended)

### **Tentative Schedule:**

Aug 30- Course overview and syllabus  
Sep 04            Outside reading: *Along a steep pathway (Ives) & various news clips*  
                     Introduction to mountain and highland geography - Text pg. 1-16

Sep 06-10        Labor Day holiday, no class (Monday)  
                     Global mountain landform systems - Text pg 17-24

Sep 13-17        GIS as a tool in mountain problems  
                     Outside reading: *Mountain regions and geographic information systems: a review*  
                     (*Heywood et. al.*)  
                     GIS Exercise - Digital terrain modeling: an overview (#1)

Sep 20-22 Sept 23-26	Regional and local mountain structures - Text pg. 24-32 Field trip: State of the San Juan Mountains Conference
Sep 27 - Oct 01	Erosional processes and landforms in mountain environments - Text pg. 24-32 Outside reading: <i>The nature of mountain geomorphology</i> (Barsch & Caine) The Fairbridge classification of mountains
Oct 04-08	Mountain weather and climate - Text pg. 40-57 GIS Exercise – Modeling the impact of mountains on regional climate (#4)
Oct 11-15 Oct 16	Mountain snowcover and hydrology. Text pg. 170-191 <i>Saturday, San Francisco Peaks field trip</i>
Oct 18-22	Mountain soils and ecosystems - Text pg. 58-82 Outside reading: <i>Comparative geography of the high mountains of the world in the view of landscape ecology</i> (Troll)
Oct 25-29	Mountain population and demographics - Text pg. 85-98 and 124-140 Outside reading: <i>The study of mountain lands and peoples</i> (Hewitt) Socio-political environments of mountain communities- Text pg. 107-123 Dexter at AGIC Conference Oct. 28 and 29.
Nov 01-05	Mountain religion and belief systems - Text pg. 85-94 Outside reading: <i>He fights terror with books</i> (Fedarko) & Military conflicts in mountain environments
Nov 08-12	Mountain transportation and settlement patterns - Text pg. 98-106 Mountain economies and land-use issues - Text pg. 143-169 and 192-215 Outside reading: <i>Various news clips</i>
Nov 15-19	GIS exercise: Associations between land use change and topography (#2) Recreation and tourism in mountains Outside reading: <i>Limits to Obergurgl's growth</i> (Moser & Peterson)
Nov 22-24	Mountain hazards - Text pg. 32-39 Outside reading: <i>Fluvial hazards in a steepland mountain environment, Southern Brazil</i> (Warburton et. al.)
Nov 25-26	Thanksgiving break, no class
Nov 29	Outside reading: <i>Sustaining mountain peoples and environments</i> (Denniston) and <i>The Tyranny of Scholarship</i> (Allan), a review of "Himalaya: Life on the Edge of the World" by Zurick, D. and P. Karan .
Dec 01	Problems and prospects for mountain environments - Text pg. 219-294
Dec 03	Exam Research presentations (2-3 per class)
Dec 06 -10 Dec 10	Research presentations (2-3 per class) Last day to submit any course materials
Dec 15	Scheduled for final exam, no class

## **NORTHERN ARIZONA UNIVERSITY, S.B.S. AND G.P.R. POLICY STATEMENTS**

### **EMERGENCY EVACUATION PROCEDURES:**

In the event of an alarm, you must leave the building immediately by the nearest exit, and move away from the building. Do not use the elevators. Please help those who may need assistance in exiting."

### **SAFE ENVIRONMENT POLICY**

NAU's Safe Working and Learning Environment Policy seeks to prohibit discrimination and promote the safety of all individuals within the university. The goal of this policy is to prevent the occurrence of discrimination on the basis of sex, race, color, age, national origin, religion, sexual orientation, disability, or veteran status and to prevent sexual harassment, sexual assault, or retaliation by anyone at this university. You may obtain a copy of this policy from the college dean's office. If you have concerns about this policy, it is important that you contact the departmental chair, dean's office, the Office of Student Life (523-5181), the academic ombudsperson (523-9368), or NAU's Office of Affirmative Action (523-3312).

### **STUDENTS WITH DISABILITIES**

If you have a learning and/or physical disability, you are encouraged to make arrangements for class assignments/exams so your academic performance will not suffer because of the disability or handicap. If you have questions about special provisions for students with disabilities, contact the Counseling and Testing Center (523-2261). It is your responsibility to register with the Counseling and Testing Center. Application for services should be made at least eight weeks before the start of the semester. If the Counseling and Testing Center verifies your eligibility for special services, you should consult with your instructor during the first week in the semester so appropriate arrangements can be made. Concerns related to noncompliance with appropriate provisions should be directed to the Disability Support Services coordinator in the Counseling and Testing Center.

### **INSTITUTIONAL REVIEW BOARD**

Any study involving observation of or interaction with human subjects that originates at NAU—including a course project, report, or research paper—must be reviewed and approved by the Institutional Review Board (IRB) for the protection of human subjects in research and research-related activities. The IRB meets once each month. Proposals must be submitted for review at least fifteen working days before the monthly meeting. You should consult with your course instructor early in the course to ascertain if your project needs to be reviewed by the IRB and/or to secure information or appropriate forms and procedures for the IRB review. Your instructor and department chair or college dean must sign the application for approval by the IRB. The IRB categorizes projects into three levels depending on the nature of the project: exempt from further review, expedited review, or full board review. If the IRB certifies that a project is exempt from further review, you need not resubmit the project for continuing IRB review as long as there are no modifications in the exempted procedures. A copy of the IRB Policy and Procedures Manual is available in each department's administrative office and each college dean's office. If you have questions, contact Carey Conover, Office of Grant and Contract Services, at 523-4889.

### **ACADEMIC INTEGRITY**

The university takes an extremely serious view of violations of academic integrity. As members of the academic community, NAU's administration, faculty, staff, and students are dedicated to promoting an atmosphere of honesty and are committed to maintaining the academic integrity essential to the educational process. Inherent in this commitment is the belief that academic dishonesty in all forms violates the basic principles of integrity and impedes learning. Students are therefore responsible for conducting themselves in an academically honest manner. Individual students and faculty members are responsible for identifying instances of academic dishonesty. Faculty members then recommend penalties to the department chair or college dean in keeping with the severity of the violation. The complete policy on academic integrity is in Appendix F of NAU's Student Handbook.

## **CLASSROOM CIVILITY & COURTESY**

Membership in the academic community places a special obligation on all members to preserve an atmosphere conducive to a safe and positive learning environment. Part of that obligation implies the responsibility of each member of the NAU community to maintain an environment in which the behavior of any individual is not disruptive. It is the responsibility of each student to behave in a manner that does not interrupt or disrupt the delivery of education by faculty members or receipt of education by students within or outside the classroom. The determination of whether such interruption or disruption has occurred has to be made by the faculty member at the time the behavior occurs. It becomes the responsibility of the individual faculty member to maintain and enforce the standards of behavior acceptable to preserving an atmosphere for teaching and learning in accordance with University regulations and the course syllabus. At a minimum, students will be warned if their behavior is evaluated by the faculty member as disruptive. Serious disruptions, as determined by the faculty member, may result in immediate removal of the student from the instructional environment. Significant and/or continued violations may result in an “administrative withdrawal” from the class. Additional responses by the faculty member to disruptive behavior may include a range of actions from discussing the disruptive behavior with the student to referral to the appropriate academic unit and/or the Office of Student Life for administrative review, with a view to implement corrective action up to and including suspension or expulsion.

Common courtesy dictates:

- No extended private conversations during lectures
- Turn all electronic communications devices off (cell phones, pagers etc.)
- Enter and exit quietly if you must do so during lecture

## **STUDENT MEDICAL/HEALTH INSURANCE**

The University’s self-insurance plan does not provide for medical coverage to students if injured while participating in University-related activities or academic programs. Students are strongly encouraged to obtain medical/health insurance prior to participation – either through their parent’s health insurance plan or by purchasing insurance (such as the Blue Cross/Blue Shield package offered through Fronske Health Center).

**Geography, Planning and Recreation**  
**WRITING GUIDELINES**  
**Adopted: August 30, 1996**

The Department of Geography, Planning and Recreation at Northern Arizona University has adopted the following guidelines for the writing of class paper by students in geography and planning courses and these by Rural Geography M.A. students. These guidelines take precedence over any other writing guidelines students may have picked up elsewhere on or off the NAU campus.

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**REFERENCES**

1. Put references in your text **immediately after the first sentence** in which the references is cited. Do Not put references at the end of the paragraph in which it is cited.
2. Proper **reference format** within the text is: (Lastname 1999: Page#) -- where Lastname=the author's last name, 1999=year of publication  
- if you are citing a direct **quote or data**, you must include a : [colon] after the year, followed by the **Page Number(s)** from which the quote came. Otherwise, the page number(s) is optional.
3. Put references **before the final period** in the sentence. An example of a proper use of in text references is:  
... and the population reach 55,000 in 1995 (Wright 1996: 337).
4. Always cite the reference source for information you obtained from somewhere other than your own mind. To not do this is **Plagiarism**. If several contiguous sentences, or an entire paragraph, of information comes from the same source, you need only reference it once in that paragraph.
5. "**References Cited**" should be used instead of "Bibliography" at the end of your papers.
6. The proper **format** for References Cited is:

Lastname, Firstname. Year. *Book Title*. CityPublishedIn: Publisher.

Lastname, Firstname. Year. Chapter Title. In *Book Title*, ed. Firstname Lastname, pp.#-##. CityPublishedIn: Publisher.

e.g. -- Smith, John P. 1556. Introduction. In T.C. Barnwood, ed., *Geographies*, pp. 3-12, London: Cheshire.

Lastname, Firstname. Year. Article Title. *Journal Title* Vol#(Issue#):Page##-##.

e.g. -- Smith, John, and Harney, Percy. 1910. New Discoveries in South America. *Geography* 12(3):56-61.

See any recent issue of the *Annals of the Association of American Geographers* for variations on different types of sources.

**ELECTRONIC MEDIA CITATIONS - Including the WWW, E-Mail and CDROMs**  
**E-mail and Usenet news articles**

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The standard form of citation is:

<author's name> <<e-mail address>> <subject> Article <<message-id>> in Usenet newsgroup <newsgroup>, <date>

1. Take the <author's name>, <e-mail address>, <subject>, <message-id>, <newsgroup> and <date> elements from the message header (see RFC1036 for further information if necessary).

2. Enclose both <e-mail address> and <message-id> within angle brackets. You may break either across lines, but if possible arrange for breaks to occur only at punctuation separators (but not on hyphens, and don't ever \*add\* hyphens).

3. In the case of a crossposted article, cite only one newsgroup (most suitably, the one in which the article was actually read).

4. Because Usenet articles are ephemeral (very few are archived, or if archived, easily accessible), if you cite a Usenet article in a printed publication you may optionally omit the Message ID.

5. For the same reason, you should retain copies of Usenet articles you cite until they are no longer needed.

### ***World Wide Web, FTP, Gopher, Telnet***

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The standard format is:

<author's name> <title of document> <<URL>> <date of document> (Accessed <date accessed>)

1. Use the URL (Uniform Resource Locator) to identify the source of the material, as specified in RFC1738. This begins with a code for the type of access involved ("http://", "ftp://", "gopher://", etc.). The appendix to RFC1738 suggests that URLs in citations should be prefixed with "URL:" and surrounded by angle brackets; for example:

<URL:http://www.bodley.ox.ac.uk/bardhtml>

However, including the "URL:" prefix seems ugly and unnecessary, as the angle brackets and access code suffice to identify the code as a URL.

2. If the accessed document is dated internally, use that date for the citation. If there is no date given, use the date at which it was first accessed (prefixed by "Accessed" in parentheses, as shown above). Optionally, give both (for example, if you have any reason to think the document may have been amended since its first creation).

3. Give filenames as you first encountered them, including suffixes indicating compressed format, such as "gz" or "zip".

4. Take care to preserve case in network server directories and filenames, as it is usually significant.

5. You may break URLs across lines, but if possible arrange for breaks to occur only at punctuation separators (but not on hyphens, and don't ever \*add\* hyphens).

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## **PAGE FORMATTING**

7. Always **use page numbers** for papers that are more than one page in length. The preferred location is in the middle bottom of the page. (This allows consistency when printing or photocopy back to back.)

8. Unless you are told otherwise, **1.5 line spacing** is preferred for most class papers. Double (2.0) line spacing may be preferred for Theses (check with your chair). - NEVER turn in a paper single spaced.

9. Always put **Two Spaces between sentences** when typing on a typewriter or computer/word processor.

10. Direct **quotes that extend beyond two page lines** in length must be indented on both sides and single spaced.

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## **ABBREVIATIONS and CONTRACTIONS**

11. **Avoid using "etc."** or "et cetera..." - you should not assume your reader knows what you mean, and it is a sign of lazy thinking.

12. "**e.g.**" means "**For example**" or "Such as" - an example of proper use is: ... many western states are in the Sunbelt (e.g., Arizona, Nevada and California).

"**i.e.**" means "**That is**" - an example of proper use is: He was not wrong (i.e., he was correct) to say ....

13. The Possessive of "It" is **Its** -- NO Apostrophe. **It's** (with an apostrophe) means "it is"  
- other possessives include "his" and "hers"

14. Do Not use **Contractions** in formal papers. For example: use "Do Not" instead of "Don't" and use "Is Not" instead of "Isn't"

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### **GRAMMAR and USAGE**

15. The plural of a year does Not use an apostrophe. **"1990s"** is Correct; **"1990's"** may be widely used, but it is Wrong.

16. **Avoid** separating two words with a **slash "/"** - in most cases a simple **"and"** will do.  
--- Also Do Not use **"and/or"** - in most cases a simple "and" will do.

17. **"There"** = location (There it is.)  
**"Their"** = possessive (it belongs to them)  
**"They're"** = contraction of "They are"

18. It is preferable to use **"that"** instead of **"which"** whenever possible. Use "which" only when the word "that" is too awkward.

19. Do not end a sentence with a **preposition** (common prepositions include: of, by, with, at, in, on, to, for, between, from, and through.)

20. **USE YOUR SPELL CHECKER** - if you are using a word processor

21. **USE YOUR GRAMMAR CHECKER** - if your word processor has one (and most do these days)

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**AGREEMENT OF UNDERSTANDING:**

I have read the course syllabus for GGR 547, Mountain and Highland Geography. I have had the opportunity to ask questions about the syllabus and course. I understand the content of the syllabus and agree to be responsible for the requirements and course policies.

Signature\_\_\_\_\_

Printed name\_\_\_\_\_

SSN\_\_\_\_\_

Detach and turn in before the end of the second week of class to avoid administrative drop.