

UNIVERSITY OF NEVADA, Department of Geography

Geography of Past Environments (GEOG 437/637)

Spring 2010 Syllabus

Instructor : Dr. Franco Biondi

Course Description

The characterization of environmental history serves to guide landscape conservation, restoration and management programs, as well as the prediction of environmental processes. The addition of a deep historical dimension to analyze and interpret landscapes and ecosystems requires that we sacrifice some of the analytical elegance that can be achieved in the laboratory. Paleodata, as well as archaeological and historical data, are usually collected for many purposes, vary widely in sampling methods and quality, and are less amenable to many types of statistical analysis than well-controlled experiments. However, it is impossible to generate realistic null hypotheses about the structure and dynamics of landscapes and ecosystems from our understanding of the present alone, because Earth's surface features are products of the natural and cultural processes that have shaped them over time.

The objective of this class is to obtain a spatial understanding of Earth's past features and dynamical processes, with emphasis on three distinct time periods, defined by their starting date: (1) the last 1000 years, during which large-scale climatic episodes at decadal to centennial time scales are better understood than during previous millennia; (2) about 500 years ago, when the first European trade-based colonial expansion initiated large environmental changes in the Americas and elsewhere around the globe; (3) the end of the 19th century, when human influences on global (e.g. fossil fuels burning) and regional (i.e. livestock grazing, fire suppression) scales began escalating to modern levels. Emphasis is partly upon the methodologies used for analyzing natural archives of climatic and ecological dynamics, especially tree rings. This course is interdisciplinary in goals and content, and will be taught using a mixture of lectures, analysis of case studies, class readings and discussion, and individual or group projects.

Class Hours and Location: M and W, 2:30-3:45 pm, in 321 Mackay Science Hall (initially) or 304 Mackay Science Hall (later in the semester).

Office Hours: W, 3:45-4:30 or by appointment. Please come and see me to talk about any questions you might have on the class. I am here for you.

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Web site: Selected class material, final grade, etc., will be available through UNR's WebCT system - see details below.

Prerequisite: GEOG 103 or GEOL 101.

Course Materials

- **Required Textbook:** Egan, D. and E.A. Howell (eds.), 2005. *The Historical Ecology Handbook*, Island Press. Available at the Campus Bookstore or from web-based sellers.

- Additional material during the semester may be distributed as class handouts or posted on the class web site.

Field Trip: The class includes a one-day field trip to Fallen Leaf Lake, where we will talk about the various proxy records and environmental evidence that indicate how the lake has fluctuated (by several tens of meters) over the past few centuries. The exact date of the trip is yet to be determined, but will be in the spring, after most of the snow has melted away. It will also occur on either a Monday or a Wednesday. Round-trip transportation will be provided from campus.

Special Needs: Students who require special classroom or exam accommodations because of a documented disability need to contact the instructor at the beginning of the semester. The Department of Geography is committed to equal opportunity in education for all students, and University policy states that it is the responsibility of students with documented disabilities to contact instructors during the first week of each semester to discuss appropriate accommodations to ensure equity in grading, classroom experiences, and outside assignments.

Grading

By enrolling in this class, a student agrees to become familiar with the contents of the syllabus and requirements of the course, including the grading system, dates for tests, frequency of quizzes, due dates, and consequences of missing tests or being late for an assignment.

Undergraduate students will be graded according to their score on one Exam, two Homework assignments, a Research Proposal, and Participation. All tests count, so make sure you take all of them, and turn in all of your assignments on time. There is no final exam because the research presentation is scheduled for the day of the final exam.

- The *Exam* will be a take-home assignment, given on Wednesday and due in a week (see calendar for exact dates).
- *Homework* assignments will be two essays, 500 to 1000 words in length, based upon discussion and critical reading of course material.
- The *Research Proposal* will ask students to focus on a class topic, collect and analyze relevant literature, and propose a new study. The outcome of the project will be a written report (see detailed instructions below); a final presentation can also be done for extra credit.
- *Participation* is essential, and attendance is required in a professional way. Points will be taken out for breaking the Rules of Conduct (see below).
- There is *no extra credit* work. There is ample opportunity to demonstrate your desire for a good grade through the regular assignments.

Graduate students are expected to draw upon their experience and knowledge gained elsewhere to enhance the formation of connections between the topics covered in this course as well as related topics not explicitly covered in the course.

Graduate students need to demonstrate a deeper understanding of course material; hence they are graded using higher standards than those employed for undergraduates. Their exam will include additional components; their homework assignments will be longer essays, 1000 to 1500 words in length, and based not only on class material but also on the student's literature review. Graduate students will use their homework assignments as starting points to lead class discussions lasting one hour or longer.

Students enrolled at the 600-level will present their research proposal to the class during the

final week (see detailed instructions below). The graduate students' technical presentation at the end of the semester is aimed at improving the ability to speak in front of an audience, and serves as a synthesis experience, combining explicit class material with external, independently researched information to develop an original research question.

Grading breakdown

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Exam	50	50
Homework (2 x 25)	50	50
Research Proposal	60	50
Class Presentation	Extra Credit	30
Attendance and Participation (40 undergrad., 20 grad.)	40	20
TOTAL	200	200

Final letter grades may have a plus or minus according to the following scheme:

A = 93% or higher; A- = 90-92.9%; B+ = 87-89.9 %; B = 83-86.9 %; B- = 80-82.9 %; C+ = 77-79.9 %; C = 73-76.9 %; C- = 70-72.9 %; D+ = 67-69.9 %; D = 63-66.9 %; D- = 60-62.9 %; F = < 60 %.

While this grading scale cannot be changed, the instructor reserves the right to increase letter grades based on class performance.

Rules of Conduct (*the tough stuff*)

- **Attendance.** Attendance is required. At the beginning of the semester I will do a roll call. As soon as I memorize your names, I will remember who attends and who does not. Keep in mind that your grade will improve if you come to class and take notes. Each class meeting builds on the previous one, therefore it is important to keep up with the material. Also, talking with other students or reading materials unrelated to the course during a lecture disturbs the entire class, and will not be tolerated. If you need to know something, ask your instructor.
- **Tardiness.** BE ON TIME. Coming late or leaving early is a sign of disrespect, and it disturbs everybody else in the classroom. If you have a schedule conflict, please come and talk to me *in advance* – maybe we can work out a solution.
- **Digital Devices.** No digital devices are admitted in class. Therefore, you cannot (1) use a cell phone, (2) tap on your laptop, (3) listen to music (remove those earpieces before entering!).
- **Homework.** Make-up homework will be given only for an official excuse (illness, family death) with proper documentation (MD's note, death certificate). Homework typically has a brief turnaround time. If you know you will have to miss a class, make prior arrangements with the instructor for returning assignments in advance.
- **Late Assignments:** Assignments are due when stated — late projects will be marked

down at a rate of 10% of the grade per day. Unless otherwise noted, assignments are due by the beginning of class. Given the nature of the course and examination materials, there are no scheduled make-up exams.

- **Academic Dishonesty:** Academic dishonesty is against university policy as well as the system community standards. Academic dishonesty includes, but is not limited to, the following:
 - *Plagiarism:* defined as submitting the language, ideas, thoughts or work of another as one's own. If you need to reference other people's work, give appropriate credit using quotes for exact wording, and always provide complete references.
 - *Cheating:* defined as (1) obtaining or providing unauthorized information during an examination through verbal, visual or unauthorized use of books, notes, text and other materials; (2) obtaining or providing information concerning all or part of an examination prior to that examination; (3) taking an examination for another student, or arranging for another person to take an exam in one's place; (4) altering or changing test answers after submittal for grading, grades after grades have been awarded, or other academic records once these are official.

Sanctions for academic dishonesty may include the following: (1) canceling the student's enrollment in the class without a grade; (2) filing a final grade of "F"; (3) awarding a failing mark on the test or paper in question; (4) requiring the student to retake the test or resubmit the paper. For additional details on academic standards, please consult the University Catalog.

How to succeed in this class:

- ✓ Ask questions
- ✓ Keep up with the class material
- ✓ Think carefully about your research project
- ✓ Be creative
- ✓ Participate in class discussions
- ✓ Remember deadlines
- ✓ Use the class web site
- ✓ Practice your final presentation (graduate students only)

Research Proposal

Each student will be required to design an original research project, and graduate students will need to write a grant proposal to ask for funding. This will expose the students to an unsolved question, and to the challenge of justifying its relevance, while finding the best possible answer using creative thinking. A research project implies making new observations, reading the scientific literature, and analyzing data. The outcome of the project will be a written report (undergraduates) or a research proposal and class presentation (graduates). The research project will include the following components:

Title

Abstract

----- DUE EARLY TO ALLOW FOR FEEDBACK

Background (Problem analysis and Literature Review)

Objectives

Guide for Authors (graduate students only)

----- FIRST GRADING (40%)

Study plan (Methods and Expected Outcomes)

Literature cited

----- SECOND GRADING (40%)

Expected Results

Timetable and Budget Justification

----- THIRD GRADING (20%)

Specific deadlines are set in the class calendar for each component of the project. Each phase (first, second, and third) will be graded individually, but with a possibility of revision. As usually happens in any research project, ideas and plans are refined as work progresses. By revising your previous work you will also have an opportunity to improve your previous grades. For example: the title and abstract are due early in the semester, as they allow me to give you feedback on your ideas. The first score (40% of the whole Research Project grade) will be assigned after you turn in the problem analysis, literature review, and objectives. If the scope of the research is vague and not well justified, your score will be low. However, this is only an indication that you need to work diligently to refine the research question. The second score (40% of the whole Research Project grade) will be assigned after you submit the study plan. At this time, if you provide a revised research justification and objectives, I will revise the first score as well as assign the second score.

Therefore, with each new phase of the project, if you continue to revise and improve your work, you can continue to increase your scores throughout the semester. You must hand in the original assignment together with the revised assignment if you want to change your previous grade. The final product of your project will be a written proposal and a class presentation (see below). The length of the proposal must not exceed 10, double spaced, typed pages (including references, tables, and figures, but excluding budget and budget justification).

Final Presentation (required for graduates, extra credit for undergraduates)

Presentation of your research project to the class will need to be in PowerPoint format, which can easily be displayed using the LCD projector. Presentations are scheduled for the last day of class. We will mimic the style of professional meetings, with 10-20 minutes allocated to each speaker.

Speaking in front of an audience is a useful opportunity to sharpen your communication skills. Please try to leave one-two minutes at the end of your talk for questions and comments. Also, you may want to consider the following suggestions:

- (1) Make your figures simple and clear. Labels need to be large and visible from a distance. The smart-classroom equipment is very effective at enlarging viewgraphs, but remember that text needs to be readable from the back of the room.
- (2) You don't have much time, and you need to spend at least one minute on each figure. Therefore, restrict the number of slides to those that are most relevant to your project.
- (3) Organize your talk. Start with the problem: why are you motivated to research this issue?, why should the audience care? Continue with the method: which data will you collect?, what kind of analysis will you perform? Proceed with the expected results: what will you learn?, what still needs to be done? Finish with the timetable and budget.
- (4) Try to have only one or two conclusion points. If you can summarize your project in one sentence, do that at the end of your talk.

Computer Lab

Each student will be able to use the Department of Geography computer laboratory (MS 221 and 222) when no other courses use it. Printers are available for grayscale and color printing (both single- and double-sided pages). It is necessary to have a UNR netID to use the computer lab.

Login instructions:

- ✓ Turn on the computer (if it is turned off)
- ✓ Press Ctrl-Alt-Del to log in
- ✓ A window will come up asking for your Username and Password (use your NetID ones)

All of your work needs to be saved before you log out. ***Make sure that each program you use will save files to your own digital media.***

Class web site

The class web site is located on UNR's WebCampus system. In order to log onto the class web site you will need to:

1. Go to <https://webcampus.unr.edu/>
3. You will need to enter your Username and Password
***** *These are the same as your UNR NetID and Password* *****

(Your UNR NetID and Password need to be activated **before** trying to access the class web site).

After logging, you will be directed to a main page, which contains a link to all your WebCT courses. For this class, the web site will only be used to post updates to the calendar, class materials, and your mid-semester and final letter grade. Please remember to hit the "Reload" button of your web browser to view the most recent changes.

Skills required and/or developed for this course

This class requires and/or improves students' skills in the following areas:

- ✓ **Writing** (*ability to write a complete, well constructed essay or paper using correct vocabulary, grammar, spelling, and punctuation*)
- ✓ **Verbal Presentation** (*ability to make oral presentations to a group in a clear, understandable, professional manner*)
- ✓ **Visual communication** (*ability to understand and interpret graphics, posters and presentations that communicate ideas visually, through design, layout, color, symbols and graphic representation*)
- ✓ **Comprehensive Reading** (*reading for the main ideas in a manuscript and the ability to articulate these ideas in written annotation*)
- ✓ **Library research** (*ability to use appropriate search methods to find books, articles, maps, photographs, digital data, and other educational materials*)
- ✓ **Computing** (*basic file management, printing, email, web search, and use of basic software programs including word processing and spreadsheets*)
- ✓ **Quantitative analysis** (*skills solving problems requiring numerical tools, manipulation of data, and simple models*)
- ✓ **Qualitative analysis** (*skills interpreting information in the form of observations, texts, and dialogue*)
- ✓ **Accountability, efficiency, precision, and accuracy** (*development of professional skills including punctuality, meeting deadlines, working efficiently alone and in groups,*

- selecting appropriate methods for work and achieving accuracy in results)*
- ✓ **Memorizing** (remembering facts, ideas or methods so they can be repeated in the same or equivalent form)
 - ✓ **Analyzing** (investigating in depth the basic elements of an idea, experience or theory, such as a particular case or situation, and consider its components)
 - ✓ **Synthesizing** (summarizing and organizing ideas, information or experiences into new, more complex interpretations and relationships)
 - ✓ **Judgment** (making informed decisions about the value of knowledge, arguments or methods, such as examining how others have gathered and interpreted data, then assessing the soundness of their conclusions)
 - ✓ **Applications** (applying theories or concepts to practical problems or in new situations)
 - ✓ **Spatial analysis** (interpreting patterns of distribution and recognizing phenomena and processes as they occur in space)
 - ✓ **Perception and geography** (assessing relationships between the experiences and perceptions of individuals/groups and the transformation of places and landscapes)
 - ✓ **Regional understandings** (evaluating the organization of space into regions based upon understandings of physical and social environments)
 - ✓ **Cultural interpretations of place and landscape** (observing the influence of culture and society in the transformation of places and landscapes)
 - ✓ **Physical geographic analysis** (recognizing environmental processes and their spatial patterns as they are associated with changes in landscapes, climatic change, water regimes, and biotic interactions)
 - ✓ **Human-environment interactions** (examining dynamics between social actions and the interpretations, use, quality, and change of physical environments)