

Professor:	Dr. Matthew Lachniet
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Office Hours:	T/W 2:30 to 3:30 pm
Lecture room and time:	CBC C-227, T/R 4:00 – 5:15 pm.
Required books:	Text: Ritter et al., 2011, Process Geomorphology, 5 th Edition. Waveland Press, 652 pages. \$79.95. Waveland Press, ISBN: 1-57766-669-0; Lab manual: Interpretation of Landforms from Topographic Maps and Air photographs, by Easterbrook and Kovanen. \$31.95. Waveland Press Inc., ISBN: 1-57766-481-7
Laboratory:	LFG 101 (we will NOT meet at CBC C113), Friday 8:30 – 11:15 am.
Laboratory TA:	Paul Pribyl
Class Website:	http://www.unlv.edu/faculty/lachniet/geomorphology.html

Course Background

Geology 333 is a 4 credit, intermediate-level undergraduate course with laboratory on the principles of Geomorphology. I assume knowledge of basic geological concepts covered in typical introductory geology courses, such as rocks and minerals, some structural geology, sedimentology, and basic geologic terminology, in addition to knowledge of scientific units, conversion, and basic algebra and trigonometry. You should also be familiar with the Geologic Time scale, in particular subdivisions of the Cenozoic and Quaternary period.

Course Objective and Assignments

The objective of this course is for students to understand and be able to discuss the origin and morphology of landforms in diverse environments, including the ability to recognize landforms on photographs, aerial stereo photographs, and topographic maps. Lecture material will be supplemented with laboratory exercises and analysis of aerial stereo photographs and topographic maps.

Topic List:

1. Introduction to geomorphology (Chapters 1 and 2)
2. Chemical Weathering and Soils (Chapter 3)
3. Physical Weathering (Chapter 4)
4. Drainage Basins (Chapter 5)
5. Fluvial processes (Chapter 6)
6. Fluvial landforms (Chapter 7)
7. Wind processes and landforms (Chapter 8)
8. Glaciers and Glacial Mechanics (Chapter 9)
9. Glacial erosion, deposition, and landforms (Chapter 10)
10. Karst processes and landforms (Chapter 12)
11. Coastal processes and landforms (Chapter 13)
12. Tectonic Geomorphology (Lecture notes; time permitting)
13. Periglacial processes and landforms (Chapter 11; Time permitting).

Learning Outcomes:

By the end of this class, students will have demonstrated proficiency in the following learning outcomes: 1) read, interpret, and make topographic maps, and understand coordinate systems and scale; 2) read and interpret aerial photographs; 3) apply knowledge of physical and chemical weathering processes to interpret landforms; 4) understand the concepts of dynamic equilibrium in geomorphology; 5) identify intrinsic and extrinsic thresholds in geomorphic systems; 6) identify common landforms visually, on topographic maps, and on aerial photographs; 7) discuss the role of tectonics, time, and climate on geomorphology; 8) comprehend and recall an in-depth vocabulary of geomorphic terms; 9) apply critical thinking skills to solve Earth surface problems; 10) understand the concept of recurrence intervals in climate and geomorphology; 11) link understanding of geomorphic processes to landforms.

Student responsibilities

Students' responsibilities will include a) attending lectures and laboratories, b) taking lecture notes to supplement assigned readings, c) taking exams, and d) completing exercises. Examinations will cover material from classroom lectures, laboratories, and assigned readings.

Attendance

I will take attendance throughout the semester. Attendance in lecture and laboratory is required. You may fail the class if you have more than **FIVE unexcused absences**, in both lecture AND lab. It is your responsibility to attend and be on time for class. It is the student's responsibility to inform the instructor no later than the last day of late registration of classes to be missed for religious holidays.

Grading policy

Your grade for this class will be determined by your exam scores.

Exam 1 (not cumulative)	25%
Exam 2 (not cumulative)	25%
Laboratory	25%
<u>Final Exam (cumulative)</u>	<u>25%</u>
Total	100%

Grade ranges (with + and -) will be assigned by percentage as follows: $\geq 90\%$ = A; 80 to 89% = B; 70 to 79% C; 60 to 69% = D, < 60 = F.

Final Exam 2012 is Tuesday May 8, 6:00-8:00 PM

What do the grades mean?

"A" = exceptional performance and demonstration of expertise

"B" = above average but not exceptional, demonstrating proficiency but not expertise

"C" = average; student has attained basic competency in the course material

"D" = below average

"F" = the student has not demonstrated a basic level of competency in the course material.

To earn an "A" in this class, you should demonstrate exceptional knowledge of the course material. An "A" typically requires that you should: 1) read *all* of the assigned readings, 2) attend class every day and arrive on time, 3) know all of the terminology and be able to identify all of the landforms we discuss in lecture and lab, 4) perform well on exams, and 5) attend all laboratory classes. Most importantly, students who are naturally curious and ask questions are more likely to perform well. A fundamental requirement of doing well in this class is knowing how to create and read topographic maps.

How much time should you spend studying outside of class to attain expertise? A general rule of thumb is 2 to 3 hours of studying for each credit hour you are taking.

Cell Phone and Electronic Device Policy:

It is simple: Don't use them. Your peers' time is valuable, and please respect everyone's right to a disruption-free learning experience. It is disrupting and disrespectful to use cell phones, send text messages, or leave the room to answer a cell phone call while class is in session. Texting in class or leaving for phone calls will result in removal from class and count as unexcused absences.

Field Trips:

Field trips will include Valley of Fire/Lake Mead (all-day Friday Feb. 10), and Red Rock Canyon (all day Friday Feb. 24).

Dates are subject to change depending on permits/vehicle availability.

Cheating

Cheating and plagiarism will result in a failing grade for this course and may result in your expulsion from the University. We work on an honors system consistent with UNLV Office of Student Conduct policies (<http://studentconduct.unlv.edu/>). Please inform me if you are aware of cheating.

Special Assistance

If you have a documented disability that requires assistance, you will need to go to Disability Services (DS) for coordination in your academic accommodations. DS is located within the Learning Enhancement Services office in the Reynolds Student Services Center, room 137. The DS phone number is 702-895-0866, or TDD 702-895-0652.

A note on questions: All questions are GOOD questions. In-class questions are for clarifications and uncertainties, not a substitute for reading the book!