Fall 2010- GRG 339 • Process Geomorphology

Instructor: Dr. Edgardo Latrubesse- Associate Professor- GRG 402-

(<u>latrubesse@austin.utexas.edu</u>)- phone:

Office hours: Tuesday 10:00 AM-11:AM

Teaching Assistant: Maraigh Leitch, PhD Student, Department of Geography and the

Environment, (maraighleitch@gmail.com)

Unique	Days	Time	Location	Instructor
37355	TTh	11:00 AM-12:30 PM	GRG 316 and EIS Lab 302	Latrubesse

Prerequisite: Upper-division standing, and credit or registration for Geography 301C or Geological Sciences 401.

Course Description

This course examines the processes that shape the Earth landforms. We will consider the major components of geomorphology, including fluvial, glacial, periglacial, aeolian, slope, coastal, and weathering processes. Students will be exposed to fundamental concepts in geomorphology, as well as analytical skills for conducting geomorphic analysis. Particular attention is given to understanding the variability of geomorphic process and form to anthropogenic and climatic controls. A major goal of the course is for students to understand the practical value of possessing knowledge of geomorphology, especially for understanding environmental change.

Labs

There are laboratory assignments/exercises for each theme. We will review the material and the methods for each lab, and I will either make the data available, or indicate where it may be obtained. Each lab will involve basic data analysis, and a short write-up of the results. Students must work with a partner. Google Earth will be a main source for labs. Labs will take place mainly at the EIS-302 lab, Geography Building (GRG). This facility contains about 26 Workstation computers for remote sensing interpretation and processing.

Field trip

The course includes an optional one-day field trip around Austin. It will happen during a Saturday from 9AM to 5PM: We will discuss the specifics and logistics at the appropriate time in the semester. The Department will subsidize the transportation.

Term Paper

Graduate students will complete an in-depth (3,000 - 4,000 words) term paper on an approved topic. The paper is due Thursday, December 2th. The paper must adhere to a journal format, and include appropriate references, tables, and figures. The paper should involve original research and data analysis, but not necessarily field work. Importantly, the paper must include an in-depth literature review and the identification of a specific problem in fluvial

geomorphology. This may include thesis or dissertation topics if relevant to the course content. If you do not have a firm paper topic, see me for possible topics.

Course management

Course materials and grade will be posted on Blackboard. Students are required to consult this website frequently. Selected materials from different textbooks and pdf versions of power points presentations will be provided through Blackboard.

Policies

a) Attendance

This course is intensive and relatively complex. This is due, primarily, to the amount of topics and material to be covered during the semester. You are required to attend all classes and arrive on time. It is, therefore, my philosophy that your success in this course will surely vary directly with your class attendance. Be aware of the fact that attendance will be taken on a daily basis and this information can be used in the computation of your final class grade (see Grading policy below). Do not routinely arrive 5 minutes late to class with the excuse that parking was a problem (the obvious solution is to routinely depart 5 minutes earlier).

Lateness: Late labs and papers will be assessed as part of your participation and commitment. Laptops are NOT allowed except with prior permission and in exceptional situations.

b) Academic Integrity

The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility.

Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community. Each student in this course is expected to abide by the University of Texas Honor Code (see University guidelines on Academic Dishonesty (section 11-802).

In this class, there is zero tolerance for students who violate university rules on scholastic dishonesty with all suspected cases turned over to the University's Dean of Students office. Penalties for scholastic include possibility of failure of course and dismissal from the University. Since dishonesty harms the individual, fellow students and the integrity of the University, policies on scholastic dishonesty will be STRICTLY ENFORCED in this class. Any work submitted by a student in this course for academic credit will be the student's own work. Using other person's work without appropriate citation is plagiarism.

Disabilities

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. Present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed. The student should remind the professor of any testing accommodations no later than five business days before an exam. For more information, contact the Office of the Dean of Students at 471-6259, 471-4641. http://www.utexas.edu/diversity/ddce/ssd/.

Grading Policy

Undergrads: Grades will be assigned on the plus and minus scale (A-, B+ and so forth). We will apply 3 Exams @ 33.3% each. The professor can provide a 6% bonus on the exams grade, taking into consideration the level of participation and commitment of the student with the course. It will not affect in a negative way the grade obtained by exams.

Graduate students: 3 Exams @ 25% each, term paper at 25%

Examination Absence Policy

If you miss any exam, and you have a valid written excuse, you will be given an opportunity to make up a similar exam but with different questions or approach that previously applied. In order to be allowed to makeup the exam you will need to present to Prof. Latrubesse a copy of a valid written excuse. If you miss more than one exam due to valid written excuses, you may be asked to take an incomplete and to complete the course requirements the following semester.

What is a valid written excuse?

- Doctor's note. This note should specifically say that you were unable to come to class because of a verified illness. It must be signed.
- Note from athletic department, music department, etc. asking for an excuse due to a university function. These notes need to be presented well before the exam.
- Military Service activation note.
- Trial or jury duty note.
- Religious holy day. Religious holy day conflicts must be brought to the attention of Prof. Latrubesse in advance. Please check the syllabus calendar to be sure that your religious holy days don't conflict with exams. If there is a conflict: please provide a written, signed request before the end of the second week of class.
- If you do not have a valid excuse, you will receive a zero for that exam.
- ▶ All notes must be on letterhead, signed, include a contact name and phone number.

Texts

Course readings will include the text, as well as readings and figures. Selected materials from different textbooks and pdf versions of power points presentations will be provided through Blackboard. It is my philosophy that an experienced professor with a strong background on research does not necessarily follows and uses a textbook but contributes to student education transmitting his own experience to the students and discussing a variety of sources from the specialized literature. It is essential that you read prior to coming to class so that you may contribute to class discussions

Recommended books (but not exclusive textbooks)

Ritter, D.F., Kochel, R.C., and Miller, J.R. 2002. Process Geomorphology, 4th ed., Waveland Press.

Summerfield, M, 1997. Global Geomorphology, Logman Ed.

UT POLICY ON EMAIL NOTIFICATION

Instructor to student email is a recognized and accepted form of official communication here at the University of Texas. For the University policy, read this. It is critically important that (1) you make sure to have your current and most frequently checked email address on file in UT Direct and (2) you check it on a daily basis. I will send class email frequently during the semester and you'll be given updates and notices in references to lectures as well as exams.

Religious Holidays

By UT Austin policy, students must notify the professor of a pending absence at least fourteen days prior to the date of observance of a religious holy day in special if it is coincident with the date of a test.

Office Hours

My office hours this semester are Tuesdays 10:00AM-11:00PM. You may also arrange to meet with me at another time by e-mailing me to set up an appointment.

Calendar-Activities (it can be slightly modified suffering minor adjustments)

AUGUST	GRG 316	Exercises- Lab
Thursday 26	Introduction-planning-definitions- planned activities	
Monday 31	Geomorphology: main concepts- Geomorphologic systems. processes, agents, proxies, etc.	
SEPTEMBER		
Thursday 2 st	Global Tectonics Geomorphology	
Tuesday 7	Global Tectonics (final) and igneous landforms	
Thursday 9		Exercise Tectonic
Tuesday 14	Weathering: concepts. Physical and biological weathering	
Thursday 16	Chemical weathering (including Karst)	
Tuesday 21	Mass wasting- slope processes	
Thursday 23	Fluvial processes- drainage networks	
Tuesday 28		Exercise mass wasting-

Thursday 30		TEST 1 (Tectonic-Weathering
OCTOBER		and Mass Wasting)
	Elyvial processes shapped pottoms	
Tuesday 5	Fluvial processes-channel patterns	Evansias flywiol (dusings)
Thursday 7		Exercise fluvial (drainage patterns morphometry)
Tuesday 12		Exercise fluvial (channel patterns-hydrology)
Thursday 14	Fluvial processes-floodplains and terraces	
Tuesday 19		Exercise fluvial (floodplainsterraces)
Thursday 21	Aeolian processes-inbtroduction and erosional landforms	
Tuesday 26	Aeolian deposits and landforms	
Thursday 28		Exercise on aeolian landforms
SATURDAY 30	Field work (from 9AM-to 5PM)	
NOVEMBER		
Tuesday 2		TEST 2 (Fluvial and Eolian processes and landforms)
Thursday 4	Periglacial	
Tuesday 9	Glacial	
Thursday 11		Exercise glacial-periglacial
Tuesday 16	Coastal	
Thursday 18	Optional Review-field "compensatory day"	
Thursday 23		TEST 3 (Glacial-Periglacial-Coastal processes and landforms)
Thursday 25	THANKS GIVING	
Thursday 30	Long term landscape development	
DECEMBER		
Thursday 2	Applied Geomorphology	