Spring 2014
MWF 9-9:50 AM, T 10-11:50 in 433 FSA

GEO 380

Geomorphology

Instructor: Dr. Tranel
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Overview

This class investigates the surface processes that shape the earth's landscape features. Through our discussions and lab activities, we will evaluate how erosion or deposition of materials creates new features in the landscape. We will use topographic maps, computer programs and a field trip to study at these features.

Goals

- Students should be able to identify features in the landscape and the specific surface processes that formed those features in the field and with topographic and digital maps.
- Students should be able to evaluate how features change over time as a result of changes in surface processes and climate.

Skills

- Identify landscape features with topographic maps
- Analyze landscape features with digital elevation models
- Review geologic literature
- Work collaboratively on a group project

Evaluation

Weekly reading assignments will be evaluated through in class discussion participation or quizzes.

Weekly or biweekly lab assignments will be collected and graded for completion.

Three short-answer exams will cover the three units.

Your final project will be evaluated based on completion, correct compilation and interpretation of results, and depth of analysis and supporting information.

Textbook

Process Geomorphology, 5th Edition by Ritter, Kochel, and Miller

Website

Reggienet:

https://reggienet.illinoisstate.edu/xsl-portal

View and submit assignments, check grades, find additional resources for the class.

Milestones

Exams

- Unit 1
- Unit 2
- Unit 3

Grading

Grade Scale

- A: 90-100%
- B: 80-89%
- C: 70-79%
- D: 60-69%
- F: <60%

Grade Calculations

- Discussion, Participation, and Attendance: 15%
- Lab Assignments: 35%
- Exams: 10% each
- Final Project: 20%

Accessibility Statement

Any student needing to arrange a reasonable accommodation for a documented disability should contact Disability Concerns at 350 Fell Hall, 309-438-5853, or visit the website at disabilityconcerns.illinoisstate.edu.

Academic Integrity

Students are expected to be honest in all academic work. A student's placement of his or her name on any academic exercise shall be regarded as assurance that the work is the result of the student's own thought, effort, and study. Students who have questions regarding issues of academic dishonesty should refer to the University regulation which outlines unacceptable behaviors in academic matters. It is the student's and faculty's responsibility to uphold the principles of Academic Integrity. Academic Integrity is an important part of this University and this course. Academic Integrity is required of you the student and myself as the instructor. Academic Integrity should be used in preparation of this course, in class time, regarding exams, and with regard to written assignments. In certain circumstances (such as cheating or plagiarism) faculty may be required to refer a student(s) to Community Rights & Responsibilities for a violation of Illinois State University's Code of Student Conduct.

Absences due to Student Bereavement

Students who experience the death of an immediate family member or relative as defined in the University Student Bereavement Policy will be excused from class for funeral leave, subsequent bereavement, and/or travel considerations. Students are responsible for providing appropriate documentation to the Dean of Students office and for contacting the instructor as soon as possible to make arrangements for completing missed work. More information is available in the Student Bereavement Policy at http://www.policy.illinoisstate.edu/2-1-27.shtml.

My Expectations

This is a three-credit class with a hands-on lab and field component. The class will include some lecture and much time for you to make geologic observations on samples in the lab and in the field. Because this is a three-credit class, I expect that you will spend 1-3 hours outside of class for every class credit. So, that is a total of 3-9 hours of time reading, studying, working on a project, or completing an assignment outside of the Tuesday afternoon class time.

I also expect that you will arrive on time to each class session prepared to put in your best effort during class time. Arriving on time is especially important on days when field trips are scheduled to make sure that everyone is back in time for activities, jobs, or other commitments that you all may have after class. If you anticipate being late on the day of a field trip, please let me know in advance.

Topic Schedule

Unit 1

- Introduction to Geomorphology
- Tectonic Geomorphology
- Mechanical & Chemical Weathering

Unit 2

- Hillslopes
- Fluvial Processes
- Drainage Basins and Fluvial Landforms

Unit 3

- Glacial Processes & Landforms
- Periglacial Processes & Landforms
- Karst Features
- Aeolian Processes & Landforms

Unit 4

- Case Study: Illinois stream

Lab Schedule

Unit 1

- Topographic Maps
- Introduction to GIS
- Rock Strength
- Soils

Unit 2

- Slopes & Mass Wasting
- Sediment Transport
- Sinuosity
- Drainage Basins & Stream Orders

Unit 3

- Glacial Moraines & Volumes
- Glacial Topography & Profiles
- LiDAR Karst Identification
- Wind Landforms

Unit 4

- Field trip & lab work