Fall 9-1-2018

GPHY 317.01: Geomorphology

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GPHY 317 - Geomorphology (3 credits)

Fall 2018 Course Syllabus

Meets: MWF, 10-10:50 PM
Location: Stone Hall 217

Instructor: Rebecca Kranitz
Office: Stone Hall 304C
Email: rebecca.kranitz@umontana.edu
Office Hours: Monday 11-12 PM
Wednesday 9-10 AM

Course Description

Geomorphology is the study of Earth's physical features and the processes that work to shape landscapes on the surface of the Earth. You will learn about Earth's systems that interact to shape and maintain landscapes in a variety of environments. This course functions to provide students with a solid foundation in the most important geomorphology concepts including: Earth systems science, mass wasting, and tectonic, fluvial, coastal, karst, and glacial landscapes. Classes are lecture-based with some in-class map interpretation activities and discussions. While geomorphology relies heavily on calculus and physics, this course is qualitative and will focus more on using writing to describe geomorphic processes rather than working with formulas to calculate exact quantities.

Course Objectives

By the end of this course, students will be able to:

- Identify connections between various processes operating at the surface and beneath the surface of the Earth
- Interpret topographic maps and aerial imagery to identify prominent geomorphic features
- Develop a vocabulary of geomorphic terms and processes and use that vocabulary to verbally communicate variations in process and form
- Predict system responses to various natural and anthropogenic forcings
- Synthesize peer-reviewed geomorphological research to develop and answer a research question

Textbook (*required*)

Fundamentals of Geomorphology, Third Edition
Author: Richard John Huggett
ISBN: 978-0-415-56775-6
Options:

- Purchase from the UM Bookstore ($80 new)
- Purchase used copy online (prices vary)

Other readings will be posted to Moodle for you to download

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Course Policies

- **Attendance**: Attendance is optional and counts as extra credit. A sign in sheet will be passed around at the begging of each class. If you miss 3 OR LESS classes, you will receive 5 bonus points on your final paper grade. If you miss 3 OR MORE classes, you will not lose any points, but you will not have any other opportunity to get extra credit points. It is up to you to make the decision on if you want to come to class. Excessive absences will result in a lower overall grade as you will miss out on lectures, discussions, and other in-class activities. Late arrival/early departure is not permitted. If you come to class, sign in, and then leave early, your name will be crossed off the sign in sheet.
- **Moodle**: Moodle is an online learning system that gives you access to course materials 24/7. Moodle will be utilized in this course in a variety of ways. The course syllabus and PowerPoint lectures will be posted, and you will submit some homework assignments to a Moodle dropbox. If you have difficulty accessing the course Moodle site, please inform the course instructor immediately.
- **Assignment Submission on Moodle**: Some assignments will be handwritten, and others will be completed using a computer. When using a computer, assignments will be submitted to a Moodle Dropbox. The Moodle assignments MUST be submitted as either a **.doc** or **.pdf** file. You are advised to work on a PC to submit electronic files to Moodle. Files created using the Mac word processor (Pages) produces files in an unreadable format. If you work with a Mac computer and have Microsoft Office, there will be no problems. If you do not have Microsoft Office, you are advised to work on school computers in the library and various labs across campus. If you submit an unreadable file, you will not be able to resubmit later. You are advised to not wait until the last minute to submit your homework. Moodle has been known to freeze and glitch. If the dropbox closes before you submit your assignment, you will not be able to resubmit.
- **Late Assignment and Missed Exams**: No late assignments will be accepted in this class. Some assignments will be turned in in class, and others will be submitted to Moodle. It is your responsibility to complete your assignments on time and turn them in before the deadline passes. No makeup exams will be given. Exceptions to the late assignment and missed exam policy will be made under the following circumstances: (1) Illness; (2) Death in the family; (3) Inability to make it to class due to automotive problems or loss of childcare. In order to be granted an exception, you MUST PROVIDE DOCUMENTATION validating your excuse. I expect you to be proactive about communicating with me regarding missed classes, assignments, or exams. This means that you should reach out to me ASAP, preferably before class, to communicate your absence and provide documentation. If you wait until after you miss class or an assignment I may not be willing to work with you.
- **Electronic Devices**: Cell phones are not permitted. Please refrain from using your phone during class. Computers are not permitted. You may not use computers in this course for any reason, including taking notes. Computers can cause excessive

distractions especially if the user is browsing the internet rather than using the computer to take notes. Please plan on using a notebook to take your notes.

- **Course Communication**: I will send out emails to the class regularly. All email correspondence must go through your university email. You can email me to ask questions on course materials, to set up a meeting, or with any other questions or concerns. If you email me from a non-school email account I will not respond. Please work only with your university email account.

Important Dates and Deadlines

September 3 – No Classes (Labor Day)
September 17 – Last Day to Drop Course (No fee, not listed on transcript)
October 29 – Last Day to Drop Course ($10, W on transcript)
November 6 – No Classes (Election Day)
November 12 – No Classes (Veterans Day)
November 21-23 – No Classes (Thanksgiving)
December 7 – Last Day of Classes & Last Day to Drop Course ($10, WP or WF on transcript)

Academic Misconduct

Academic misconduct is taken very seriously and the course instructor will not hesitate to investigate and discipline any student suspected of violating the following criteria:

- Plagiarism of any kind (copying from a publication or from fellow classmates)
- Copying material from another student or from the internet during an exam
- Signing another student's name on the sign in sheet
- Disclosing exam content during or after you have taken the exam
- Removing exam material from the classroom or instructor's office
- Using electronics during examinations
- Causing repeated disruptions during class lectures

If a student is caught violating these criteria, the department chair and dean will be notified to determine proper disciplinary action. You can review the student conduct code using this link:
(https://www.umt.edu/vpesa/documents/Student%20Conduct%20Code%20PDF-%20FINAL%208-27-13.pdf).

Disability Modifications

Every student enrolled in this course will have an equal opportunity to succeed. If you believe you have a disability that will hinder your performance in this class, please contact Disability Services to create a plan that ensures proper accommodation of your

needs. *All documentation from Disability Services must be provided to the course instructor.*

Some students may wish to request time-and-a-half (75 minutes) to take exams with Disability Services. If you are a student that will make use of this accommodation, you must set this up BEFORE the exam is administered. This means that you cannot show up on exam day without prior confirmation from the course instructor and Disability Services that you requested extra time. When taking an exam with Disability Services, you must take the exam on the same day it was administered in class.

Disability Services can be accessed at any point during the semester.

Disability Services for Students
Lommasson Center 154
Phone: (406) 243-2243

Moodle

Moodle is an online learning system that gives you access to course materials at all times. Moodle will be utilized in this course in a variety of ways. The course syllabus and PowerPoint lectures will be posted, and you will submit your homework assignments to a Moodle dropbox. If you have difficulty accessing the course Moodle site, please inform the course instructor immediately.

There are strict requirements that must be followed to properly submit your homework to a Moodle dropbox. The only acceptable file formats are **.doc** and **.pdf** only. Files created using the Mac word processor, Pages, produce files in an unreadable format. If you work with a Mac computer and do not have Microsoft Office, you are advised to save and submit homework assignments using a computer on campus. If you submit an unreadable file, you will not be able to resubmit at a later date.

Moodle dropboxes will close exactly at 8 PM on the assignment due date. You are advised to not wait until the last minute to submit your homework. Moodle has been known to freeze and glitch. If the dropbox closes before you submit your assignment, you will not be able to resubmit.

Assignments

Two types of assignments will be administered in this course. These include topographic map analyses and paper reviews. Topographic map analyses will be assigned in class. You will be given a series of topographic maps and will complete a worksheet designed to teach you how to interpret different landscapes. Paper reviews will be assigned as homework. You will be assigned a reading and will answer a few questions on the paper

topic. Paper reviews will be submitted to Moodle. We will have a short discussion in class on papers on the day the reviews are due.

Exams

There will be three exams during the semester - two midterms and one final. Exams will be a combination of multiple choice questions and short answer questions. You may bring one sheet of notes with you to the exam (consistent course attendance will help you generate notes that will help you with exams). The final exam will not be cumulative. The final exam is on Thursday, December 13 from 8:00 AM to 10:00 AM. No make-up exams will be administered without proper documentation of an excused absence (see Course Policies).

Research Paper

You will write a 6-8 page research paper on a geomorphology topic of your choice. You must pick at least 5 peer reviewed research papers related to your topic. You will turn in smaller assignments over the course of the semester that will help prepare your larger research paper. These assignments include: (1) Research paper topic; (2) Annotated Bibliography; (3) Introduction; (4) List of section headings; (5) First draft. You will receive feedback on each individual assignment that should help you write a well-developed final paper. The final paper will be due on the last day of class (Friday, December 7). You may choose your citation style (APA, MLA, Turabian, etc). All sources must be cited. Your paper should include images, graphs, and figures. You will also give a 5-10 min presentation on your research topic during the last week of classes.

Final Grade Components

Exams	30%
Research Paper	30%
Paper Reviews	20%
Map Analyses	20%

Grade Breakdown

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93.3-100%	90-93.2%	86.7-89.9%	83.3-86.6%	80-83.2%	76.7-79.9%	73.3-76.6%	70-73.2%	66.7-69.9%	63.3-66.6%	60-63.2%	<60%

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Schedule

This schedule is tentative and is subject to change over the course of the semester. Please refer to Moodle for the most updated version of the course schedule.

Week	Date	Topic	Readings	DUE
1	8/27/2018	Course Introduction; What is Geomorphology?	Chapter 1, 10 Reasons Why Geomorphology is Important	
	8/29/2018	Process and Form	Chapter 2	
	8/31/2018	Reconstructing Geomorphic History	Chapter 3	Paper Review #1
2	9/3/2018	**NO CLASSES - LABOR DAY**		
	9/5/2018	Geomorphic Systems I	Chapter 4	
	9/7/2018	Geomorphic Systems II	Chapter 4	Research Paper Topic
3	9/10/2018	Plate Tectonics	Chapter 5	
	9/12/2018	Tectonic Landforms	Chapter 5	
	9/14/2018	Volcanoes & Impact Craters	Chapter 6, Origin of the Colombia Plateau and Snake River Plain: Deflection of the Yellowstone Plume	
4	9/17/2018	Folds & Faults	Chapter 6	
	9/19/2018	Map Analysis - Active and Passive Margins, Volcanic Landscapes, Appalachia		Map Analysis #1, Paper Review #2
	9/21/2018	Weathering Processes	Chapter 7	Annotated Bibliography
5	9/24/2018	Weathering Products	Chapter 7	
	9/26/2018	***Exam #1***		
	9/28/2018	Hillslope Processes	Chapter 8	
6	10/1/2018	Hillslope Forms	Chapter 8	
	10/3/2018	Fluvial Landscapes & Processes	Chapter 9	
	10/5/2018	Fluvial Erosional Landforms	Chapter 9	

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7	10/8/2018	Drainage Patterns & Fluvial Depositional Landforms	Chapter 9	
	10/10/2018	Guest Lecture - Dr. Andrew Wilcox, Department of Geosciences		Introduction
	10/12/2018	Map Analysis - Fluvial Landscapes		Map Analysis #2
8	10/15/2018	Glaicial Environments & Quaternary Glaciation	Chapter 10	
	10/17/2018	Glacial Processes & Erosional Glacial Landforms	Chapter 10	
	10/19/2018	Depositional & Glaciofluvial Landforms	Chapter 10; Quaternary Deglaciation of the Champlain Valley	List of Section Headings
9	10/22/2018	Map Analysis - Glacial Landscapes		Map Analysis #3
	10/24/2018	Periglacial Landscapes	Chapter 11	
	10/26/2018	***Exam #2***		
10	10/29/2018	Aeolian Environments & Processes	Chapter 12	Paper Review #3
	10/31/2018	Aeolian Deposition & Erosion	Chapter 12	
	11/2/2018	Coastal Environments & Processes	Chapter 13	
11	11/5/2018	Coastal Erosional and Depositional Landforms	Chapter 13, The Impact of Hurricane Sandy on the Shoreface and Inner Shelf of Fire Island, NY	
	11/7/2018	Humans and Coastlines	Chapter 13	
	11/9/2018	Map Analysis - Coastlines		Map Analysis #4
12	11/12/2018	**NO CLASSES - VETERAN'S DAY**		
	11/14/2018	Karst Environments & Processes	Chapter 14	Paper Review #4
	11/16/2018	Surface and Subsurface Karst Features	Chapter 14	

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	11/19/2018	Paleogeography	Chapter 15	Research Paper Draft
13	11/21/2018	**NO CLASSES - THANKSGIVING**		
	11/23/2018			
	11/26/2018	TBD		
14	11/28/2018	TBD		
	11/30/2018	TBD		
	12/3/2018			
15	12/5/2018	**Final Presentations**		
	12/7/2018			Final Research Paper
	12/13/2018	**Final Exam - 8:00-10:00 AM, Stone Hall 217**		