

GPHY 317 - Geomorphology (CRN: 73798)

Fall 2019 Course Syllabus

**MWF, 10-10:50 AM
Stone Hall 217**

Instructor: Rebecca Kranitz

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Email: rebecca.kranitz@umontana.edu

Office Hours: by appointment only

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 relevant 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 learning how to clearly describe and interpret geomorphic processes rather than working with formulas to calculate exact quantities.

Course Objectives

At the conclusion of the semester, 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

Grade Components

Grade Component	Percentage of Total Grade
Exams	30%
Research Paper	30%
Paper Reviews	20%
Landscape Analyses	20%

GPHY 317 - Geomorphology (CRN: 73798)

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 note card with you to the exam (consistent course attendance will help you generate notes that will help you with exams). I will post an exam topic list to Moodle one week before the exam is administered. I will hand out note cards in class on the day that the review sheet is posted. All students must use the provided note cards to ensure that everyone has the same sized note card. The final exam will not be cumulative. The final exam is on Thursday, December 12th from 8:00 AM to 10:00 AM in Stone Hall 217. No make-up exams will be administered.

Research Paper

You will write a 6-8 page research paper on a geomorphology topic of your choice. You must include a minimum of five peer reviewed research papers in your paper. 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 which should help you write a well-developed final paper. The final paper will be due on the last day of class (Friday, December 6th). 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. I will provide more detailed instructions on Moodle.

Paper Reviews

There will be six paper reviews assigned as homework throughout the semester. I will post a peer-reviewed article and a question sheet to Moodle in the Paper Review section. The articles will be related to the current topic being covered in class. You will read the article and answer the associated questions. The questions will be written in the same order that the answers appear in the article. You will submit your completed assignment to a Moodle dropbox.

Geomorphic Landscape Analyses

There will be four geomorphic landscape analyses assigned as in-class activities. These will function as lab assignments since there is no separate lab course for this physical science topic. These are designed to break up the monotony of lectures and to allow you to apply your knowledge to understanding various geomorphic processes that create distinct landscapes. You will be presented with topographic maps and aerial imagery and will be asked to interpret form and process. These assignments are

GPHY 317 - Geomorphology (CRN: 73798)

designed to be completed in class, but you may check your answers at home before submitting the assignment. You will turn in a hard copy directly in class.

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%

Textbook

There is no required textbook for this course. Readings from peer-reviewed journal articles will be assigned instead, and the articles will be provided to you.

Course Policies

- **Attendance:** Attendance is optional and counts as extra credit. A sign in sheet will be passed around at the beginning of each class. If you miss 3 OR LESS classes, you will receive 5 bonus points on your final exam average. 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.
- **Grading:** All course grades will be posted to Moodle. I will guarantee that your grades will be posted within one week of the due date. I aim to grade assignments as soon as possible, so it is likely that your grades will be posted before a week has passed. It is your responsibility to check your grade on Moodle and to communicate with me if there are any issues.
- **Grade Disputes:** If you notice a missing or incorrect grade on Moodle, you have two weeks after the grade is posted to contact me to dispute your grade. I am only willing to review incorrect and missing grades in a timely manner. This two-week grace period does not apply to the end of the semester. The final day to dispute grades is the day of the final exam. After that point, I will not modify any incorrect grades. It is advised that you keep time-stamped electronic copies of all your assignments, even ones that are not submitted electronically, so you can prove that a mistake was made. If you do not have any proof that you completed an assignment on time, there will be no way to adjust your grade.
- **Dropped Grades:** At the end of the semester, I will drop one paper review. I will not drop exams, any component of the research paper, or landscape analyses.

GPHY 317 - Geomorphology (CRN: 73798)

- **Late Assignment and Missed Exams:** No late assignments will be accepted in this class. Some assignments will be submitted 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 permitted for note-taking by approval. Please come talk to me before bringing a computer into class. If you are caught using your computer for anything other than taking notes the entire class will lose computer privileges. I expect you to work honestly and ethically.
- **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 cannot respond. Please work only with your university email account.

Academic Misconduct

Academic misconduct is taken very seriously and I 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.umd.edu/vpesa/documents/Student%20Conduct%20Code%20PDF-%20FINAL%208-27-13.pdf>).

GPHY 317 - Geomorphology (CRN: 73798)

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 is 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 access and submit some 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.

GPHY 317 - Geomorphology (CRN: 73798)

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	8/26/2019	Review Syllabus; What is Geomorphology?	Chapter 1, <i>10 Reasons Why Geomorphology is Important (Paper Review #1)</i>	
	8/28/2019	Process and Form; Reconstructing Geomorphic History	Chapter 2, Chapter 3	
	8/30/2019	Geomorphic Systems I	Chapter 4	Paper Review #1
2	9/2/2019	NO CLASSES - LABOR DAY		
	9/4/2019	Geomorphic Systems II	Chapter 4	
	9/6/2019	Plate Tectonics	Chapter 5	Research Paper Topic
3	9/9/2019	Tectonic Landforms	Chapter 5	
	9/11/2019	Volcanoes and Impact Craters	Chapter 6, <i>Origin of the Colombia Plateau and Snake River Plain: Deflection of the Yellowstone Plume (Paper Review #2)</i>	
	9/13/2019	Volcanoes and Impact Craters	Chapter 6	
4	9/16/2019	Folds and Faults	Chapter 6	Paper Review #2
	9/18/2019	Folds and Faults	Chapter 6	
	9/20/2019	Weathering Processes and Products *NO CLASS - RECORDED LECTURE POSTED TO MOODLE*	Chapter 7	Annotated Bibliography
5	9/23/2019	NO CLASS		
	9/25/2019	Landform Analysis #1 *CLASS RESUMES*		Landform Analysis #1
	9/27/2019	Exam #1		

GPHY 317 - Geomorphology (CRN: 73798)

Week	Date	Topic	Readings	DUE
6	9/30/2019	Hillslope Processes and Forms	Chapter 8, <i>Investigation of Geomorphic and Seismic Effects on the 1959 Madison Canyon, Montana, Landslide (Paper Review #3)</i>	
	10/2/2019	Fluvial Processes	Chapter 9	
	10/4/2019	Fluvial Erosional Landforms	Chapter 9	Paper Review #3
7	10/7/2019	Fluvial Depositional Landforms	Chapter 9; <i>Combining historical and process perspectives to infer ranges of geomorphic variability and inform river restoration in a wandering gravel-bed river (Paper Review #4)</i>	Introduction
	10/9/2019	Landform Analysis #2		
	10/11/2019	Landform Analysis #2		Landform Analysis #2
8	10/14/2019	Glacial Environments	Chapter 10	Paper Review #4
	10/16/2019	Glacial Processes	Chapter 10	
	10/18/2019	Erosional Glacial Landforms	Chapter 10	
9	10/21/2019	Depositional & Glaciofluvial Landforms	Chapter 10, <i>Late Pleistocene stratigraphy and implications for deglaciation and subglacial processes of the Flathead Lobe of the Cordilleran Ice Sheet, Flathead Valley, Montana, USA (Paper Review #5)</i>	List of Section Headings
	10/23/2019	Landform Analysis #3		Landform Analysis #3
	10/25/2019	Exam #2		
10	10/28/2019	Periglacial Environments	Chapter 11	Paper Review #5
	10/30/2019	Aeolian Environments & Processes	Chapter 12	
	11/1/2019	Aeolian Deposition & Erosion	Chapter 12	

GPHY 317 - Geomorphology (CRN: 73798)

Week	Date	Topic	Readings	DUE
11	11/4/2019	Coastal Environments & Processes	Chapter 13	
	11/6/2019	Coastal Erosional and Depositional Landforms	Chapter 13, <i>The Impact of Hurricane Sandy on the Shoreface and Inner Shelf of Fire Island, NY (Paper Review #6)</i>	
	11/8/2019	Humans and Coastlines	Chapter 13	
12	11/11/2019	NO CLASS - VETERAN'S DAY		
	11/13/2019	Landform Analysis #4		Paper Review #6
	11/15/2019	Landform Analysis #4		Landform Analysis #4
13	11/18/2019	Karst Environments & Processes	Chapter 14	
	11/20/2019	Surface and Subsurface Karst Features	Chapter 14	
	11/22/2019	Paleogeography	Chapter 15	Research Paper Draft
14	11/25/2019	TBD		
	11/27/2019	NO CLASS - THANKSGIVING		
	11/29/2019	NO CLASS - THANKSGIVING		
15	12/2/2019	Final Presentations		
	12/4/2019	Final Presentations		
	12/6/2019	Final Presentations		Final Research Paper
	12/12/2019	Final Exam - 8:00-10:00 AM, Stone Hall 217		