Spring 2-1-2023

GPHY 111N.01: Introduction to Physical Geography: Climate, Landforms, and Vegetation

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GPHY 111N - Intro to Physical Geography:
Climate, Landforms & Vegetation
Spring 2023

Instructor Information

Instructor: Ashley Ballantyne, Professor
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Office Hours: 1-2:00 Fri. (or by appointment)
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Instructor: Anna Klene, Professor
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Teaching Assistant: Carly Innis
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Office Hours: by appointment
Office: CHCB 434

Time & Location:

11:00-11:50 am MWF, Stone Hall 304

Course Description

This course introduces students to Earth system science by exploring its many spheres and how they interact. You will learn fundamental principles of climate, landforms, earth surface processes, and ecosystems to gain a better understanding of Earth's ecosystems from regional to global scales. We will discuss topics such as global warming and climatic change, the ozone layer, extreme events, volcanoes, earthquakes, mountain landscapes, and the distribution of biomes. It provides essential background for further study in meteorology, climatology, hydrology, ecology, biogeography, geology, and physical geography. You will also learn about the scientific method as a tool of inquiry for understanding natural phenomena.

Learning Outcomes:

Upon successful completion of the course, you should be able to:

- define basic terminology used to describe physical processes and landscape forms;
- describe the main factors that influence spatial variation in weather and climate processes, ecosystems, and landscapes;
- demonstrate spatial understanding by using maps and other geographical representations to acquire, process, and report information from a spatial perspective;
- describe the spatial distribution of landscapes, relate these differences to variations in weather and climate, and reflect on how the variations impact people.

Textbook and supplementary materials:

- Hess, Darrel. 2021. *McKnight's Physical Geography: A Landscape Appreciation*. 13th Ed. Pearson Publishing.
- The digital interactive e-book is available for one semester rental through the Bookstore for $40, and the UM Bookstore and online vendors sell a print rental for ~$81. Online you may find it to buy for ~$150. Use Chrome to go to https://montanabookstore.bncollege.com/shop/montana-bookstore/page/find-textbooks , select Spring 23 Main Campus, then GPHY, 111N, section 01). Several copies are on reserve at the library as well.

Course Schedule:

Week	Topics	Reading	Assignments
1	**M: MLK holiday (Jan. 16th)** W: Course Introduction and Expectations F: Introduction to Earth	Chapters 1 & 2	
2	M: Atmospheric Structure W: Atmospheric Composition F: Atmospheric Circulation	Chapter 3	In Class Quiz 1
3	M: Solar Insolation W: Surface Temperature F: Global Energy Budget	Chapter 4	In Class Quiz 2
4	M: Atmospheric Pressure W: Atmospheric Wind Patterns F: Global Circulation	Chapter 5	Study Questions #1 In Class Quiz 3
5	M: Atmospheric Moisture W: Latent Heat F: Cloud Processes	Chapter 6	In Class Quiz 4
6	**M: President's Day holiday (Feb. 20th)** W: Atmospheric Disturbances F: Atmospheric Disturbances	Chapter 7	In Class Quiz 5
7	M: Global Climate W: Climate Change F: Past Climates	Chapter 8	Study Questions #2 In Class Quiz 6
8	M: Hydrologic Cycle W: Ocean Chemistry **F: *Exam 1: Friday March 10***	Chapter 9	Review and Exam Preparation ***Exam 1***
9	M: Landforms W: Volcanism F: Volcanism II	Chapter 13 Chapter 14	In Class Quiz 7
	SPRING BREAK		
10	M: Weathering & Mass Wasting I W: Weathering & Mass Wasting II F: Weathering & Mass Wasting III	Chapter 15	In Class Quiz 8
11	M: Fluvial Processes I W: Fluvial Processes II F: Fluvial Processes III	Chapter 16	In Class Quiz 9
12	M: Karst & Hydrothermal Processes W: Glacial Processes I F: Glacial Processes II	Selections of Chp 17 Chapter 19	Study Questions #3 In Class Quiz 10
13	M: Glacial Processes III W: Cycles & Patterns in the Biosphere F: Cycles & Patterns in the Biosphere II	Chapter 10	In Class Quiz 11
14	M: Terrestrial Ecosystems I W: Terrestrial Ecosystems II F: Soils I	Chapter 11 Chapter 12	In Class Quiz 12
15	M: Soils II W: Final Summary F: EXAM REVIEW		Study Questions #4 Review and Exam Preparation
Exam	***Exam 2: Tuesday, May 9 @ 10:10 am***		***Exam 2***

Course guidelines and policies:

Attendance

Cultural or ceremonial leave allows excused absences for cultural, religious, and ceremonial purposes to meet the student's customs and traditions or to participate in related activities. Students must submit a formal written request to the instructor including a brief description (with dates) and the importance of the student's participation. Students remain responsible for completion of assignments as defined in the syllabus, at the discretion of the instructor. Instructors shall excuse absences for reasons of military service or mandatory public service.

Academic Misconduct

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code (https://www.umt.edu/student-affairs/community-standards).

Disabilities Accommodation

UM assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (https://www.umt.edu/disability/). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Equity, please contact ODE in Aber Hall or call 406.243.2243. We will work with you and ODE to provide appropriate modification.

Basic Needs Security

Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact the Office of Student Success (http://www.umt.edu/oss/) for support. Additionally, UM's Association of University Students has a variety of resources such as the UM Food Pantry, legal services, housing assistance and emergency loans (see Bear Necessities), (http://www.umt.edu/asum/agencies/default.php).

Recording in Class

Montana law requires that if you wish to record a lecture, you must first inform the instructor and they must consent before you do so.

Important Dates:

Feb. 6: Last day to drop/add in Cyberbear or change to "Audit" with partial refund.
Mar. 28: Last day to drop w/ drop/add link in Cyberbear (w/ prof & advisor sigs), $10 fee, & "W" grade.
May 5: Last day to drop w/ link (w/ prof, advisor, & dean sigs), $10 fee, & "WP" or "WF" grade.

Grading

Activity	**Points**
Quizzes - 12 given, 2 dropped (5 pts each X 10)	50
Study Question Assignments - 4 given (25 pts each X 4)	100
Exam 1	100
Exam 2	100
Total	**350**

At the end of the course, the distribution will be examined and letter grades assigned to the following categories: A=>90%, B=80-90%, C=70-80%, D=60-70%, etc. The "+/-" grading system will be used for students on the margins of these categories.

Completing this class for a traditional letter grade will allow it to fulfill General Education and major-specific requirements. It will not do so if taken for credit/no credit.

Quizzes

Pop quizzes will be given. Preparation is key to success on quizzes – read the assigned material, pay attention during lecture, identify any content that you would like clarified, and be sure to remain until the end of class to complete the quizzes. In-class quizzes will require your presence in class. Your two lowest quiz scores will be dropped.

Assignments

Four assignments that correspond to cumulative course content are scheduled. These can be completed individually, or you may work with classmates on these, but each class member must submit their own assignments for evaluation. Assignments will be available via Moodle, and must be submitted via Moodle drop boxes by the specified due date (see below for the late submission policy).

Late Work

Late submissions will result in 5 percent point deductions from the total possible for each calendar day including weekends following the submission deadline (5 percent the 24 hours, 10 percent for 48, etc.). Work is due at the start of class on the day specified. Absences related to occasional or protracted illnesses can be excused, and work made up, with proper notification and documentation (also see below for exam make-up policy).

Exams

Two examinations are scheduled during the semester. The exams are not cumulative with respect to particular material, but concepts that you are expected to know are generally related to prior information/content. Exam questions will focus on concepts introduced in the readings that have been reviewed in lecture, so it is important that you attend classes regularly and pay particular attention to the content of lectures as you prepare for exams. We will not allow make-up exams unless documentation is provided.