

Geog 3: The Natural Environment

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Office Hours: T 11-12, W 2-3, by appt

Time and Location:

Lecture: 12 (MWF, 12:50-1:55)

Fairchild 101

Lab: Tues 3:30-5:30 (Sect 02) / Thurs 2:30-4:30 (Sect 03)

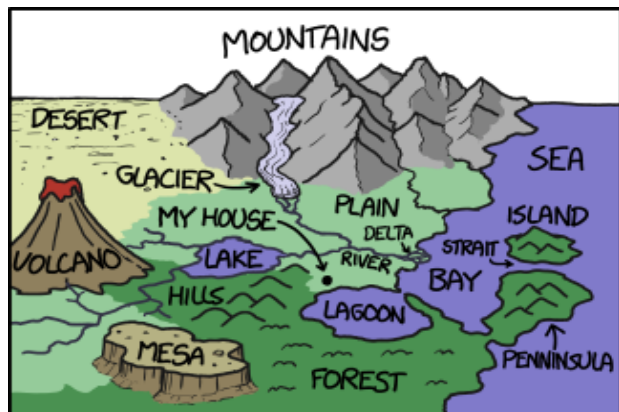
Fairchild 013

Required Text

Christopherson and Birkeland, 2017. *Geosystems: An Introduction to Physical Geography*, 10th edition.

Course Description

Our natural environment results from an array of climatic, biogeographic, and physical processes that have changed dramatically over time in response to natural and human-induced disturbance. Changes in the physical environment often result from complex interactions among earth's four principal spheres: the atmosphere (air things), lithosphere (rocky things), biosphere (living things), and the hydrosphere (water things). While meteorologists, geologists, biologists, and hydrologists often deal with each system separately, physical geographers are interested in the relationships and interactions among climate, water, vegetation, landforms, etc. This course begins by presenting the fundamentals of atmospheric processes; then examines the physical controls on the resulting global pattern of landforms, soils, and vegetation biomes across spatial and temporal scales; and ultimately explains the form and pattern of the earth's physical geography. This course will also address the role of human disturbance on these natural processes through shifts in global climate, land use, deforestation and other anthropogenic mechanisms.



IF I COULD LIVE ANYWHERE, I WOULD CHOOSE THE EXAMPLE MAP FROM GEOGRAPHY BOOKS THAT EXPLAINS WHAT EVERYTHING IS CALLED.

<https://xkcd.com/1472/>

Course Objectives

By the end of this class, you should be able to:

- 🌀 Explain how interactions between hydrology, climate, soils, geology and vegetation shape local and global landform patterns.
- 🌀 Create, refine, and interpret graphical data
- 🌀 Understand how natural and anthropogenic processes influence Earth's atmosphere, hydrosphere, lithosphere, and biosphere over time

Course Work

These course objectives will be assessed through **weekly lab exercises, exams, in-class activities and participation, and Canvas quizzes.**

Labs!

Ryan McKeon is in charge of all-things lab. Separate lab periods have been set aside for Thursday 2:30-4:30 and 4:30-6:30. **Labs are a mandatory part of the class, and absences or failure to hand in a lab exercise will result in a failing grade for the course.** The labs consist of both field work and laboratory analysis, some of which can be done in class and some of which require field analyses. It is critical that you show up on time for lab – this is especially true for the field labs. All labs are to be submitted electronically via Canvas at the start of the following lab. **No late labs will be accepted.**

Lectures!

Our MWF meetings will be a mixture of lecture, in-class activities, and discussion. You are expected to read the material prior to coming to class. Attendance is mandatory and participation strongly encouraged; you are expected to engage with the material and activities. All lecture slides presented in class will be posted on Canvas shortly after each class period.

Steve Holt!

Evaluations & Grading

Lab exercises: 35%

Exam 1: 12%

Exam 2: 12%

Exam 3: 12%

Exam 4: 12%

Canvas quizzes: 6%

In-class activities: 6%

Participation: 5%

The final grade breakdown will as be follows:

A > 93.5; A- 89.5 – 93.4; B+ 87.5 -89.4, B 83.5-87.4; B- 79.5-83.4; C+ 77.5-79.4; C 73.5-77.4; C- 69.5-73.4; D+ 67.5-69.4; D 59.5-67.4; E < 59.5

X-hours

The X-hour for this course is on Tuesdays from 1:20-2:10. Many weeks, we will not use them. However, there are definitely two weeks (see calendar below) where we will use them in lieu of class on Monday, and there may be others where we use for other missed classed periods or to review for exams. It is your responsibility to make sure that this time slot is open. If we need to meet during other the X-hours, I will notify you during the prior class period (or earlier, if possible).

Exams

Exam questions are derived from class material and readings. No makeup exams will be given except in the case of legitimate and verifiable extenuating circumstances and ONLY IF you me at least 24 hours before an exam. Dates of exams are noted in the course calendar below.

Canvas Quizzes

Four to seven online quizzes will be evaluated as an accountability check. These quizzes, which will be administered on Canvas, will be brief and will be open book. Quizzes will be announced in class and will be due before the next class period, at which point the quiz shuts down (i.e. you cannot complete a quiz after the class meeting).

Attendance, In-Class Activities, and Participation

Attendance is mandatory, let me know ahead of time if you cannot make it to class. You are responsible for all materials presented in class, including any announced changes to the syllabus. In the event of an absence, you are encouraged to obtain missed notes from fellow classmates when necessary. We will often have unannounced in-class activities. These points cannot be made-up unless you notify me of your absence in advance, and only in verifiable, extenuating circumstances.

Participation will be evaluated using the following guidelines:

Grade	Behavior
9-10/10	Always well prepared for class; facilitates productive peer discussions; offers reasoned responses of high quality and asks thoughtful questions on an ongoing basis.

7-8/10	Contributes regularly; generally prepared; asks questions and provides occasional responses of moderate quality; handles direct questions satisfactorily.
6/10	Participates infrequently; needs to be prodded; weak preparation; allows other to carry the ball in class discussions
5/10	Often inadequately prepared; little involvement in class discussions; repeatedly late or leaves during class.
0-4/10	Unprepared; disruptive in class; unauthorized use of computers during class – e.g. email, iMessage, gChat; shopping; general browsing; repeated talking with other students about topics not related to class.

Course Policies

Late work will not be accepted, which means if something is not turned in on time, you will earn a 0 on that assignment. However, I understand that sometimes life gets in the way, so if you know you're going to have a problem attending class, turning in an assignment, e-mail me or stop by my office to chat **beforehand**.

The classroom is a place of learning and respect. In order to maintain the proper learning environment, you should not engage in any other activities during class time. Please do not distract others by arriving late, leaving early, or chatting during class.

We will foster an inclusive and respectful environment in the classroom. If you ever feel uncomfortable in class, please do not hesitate to let me know.

This course also has a no cell phone policy. Laptops may be used. But know that I can absolutely tell when you are taking notes vs. reading the news, scrolling through Facebook, on iMessage, online shopping, checking how many games the Yankees are behind the Red Sox, etc., and, like Bartleby the Scrivener, I would prefer not to call you out.

Academic Honesty

All students are expected to abide by Dartmouth's Academic Honor Principle, detailed here: <http://www.dartmouth.edu/~uja/honor/students.html>. If you have questions or concerns, please contact me or the Undergraduate Deans Office.

Student Needs

Students who may need disability-related academic adjustments and services are encouraged to see me privately as early as possible in the term. Students requiring these adjustments and services must also consult the Student Accessibility Services (SAS) office. Once SAS has authorized services, students must provide me with the originally

signed SAS Services and Consent Form and/or a letter on SAS letterhead. All inquiries and discussion will remain confidential.

Religious Observances

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.

Mental Health

The academic environment at Dartmouth is challenging, our terms are intensive, and classes are not the only demanding part of your life. There are a number of resources available to you on campus to support your wellness, including your: Undergraduate Dean (<http://www.dartmouth.edu/~upperde/>); Counseling and Human Development (<http://www.dartmouth.edu/~chd/>); and the Student Wellness Center (<http://www.dartmouth.edu/~healthed/>).

Calendar (subject to change)

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Readings</u>	<u>Lab</u>
1	9/12, Wed	Introduction	Chapter 1	
	9/14, Fri	Earth-Sun Geometry	Chapter 2	
2	9/17, Mon	Earth-Sun Geo / Earth's Atmosphere	Chapters 2 & 3	1
	9/19, Wed	Earth's Atm. / Global Energy Balance	Chapters 3 & 4	
	9/21, Fri	Global Energy Balance	Chapter 4	
3	9/24, Mon	Atmospheric Pressure & Winds	Chapter 5	2
	9/26, Wed	Global Circulation/Air Masses	Chapter 5	
	9/28, Fri	Exam 1		
4	10/1, Mon	Moisture in the Atmosphere	Chapter 6	3
	10/3, Wed	Weather	Chapter 7	
	10/5, Fri	Regional Climates	Chapter 9	
5	10/8, Mon	NO CLASS		4
	10/9, Tues X- HOUR	Vegetation Structure and Dynamics	Chapter 19	

	10/10, Wed	Climate-Vegetation Relationships, Biomes	Chapter 20	
	10/12, Fri	Exam 2		
	10/15, Mon	Soil Formation	Chapter 18	5a
	10/17, Wed	The Hydrosphere, Climate-Soil Relationships	Chapter 8	
	10/19, Fri	Fluvial Systems & Landforms	Chapter 14	
7	10/22, Mon	NO CLASS		5b
	10/23, Tues X-Hour	Aeolian Systems	Chapter 15	
	10/24, Wed	Coastal Systems	Chapter 16	
	10/26, Fri	Exam 3		
8	10/29, Mon	Glacial Systems	Chapter 17	6
	10/31, Wed	Rocks & Minerals	Chapter 11	
	11/2, Fri	Structural Landforms	Chapter 12	
9	11/5, Mon	Weathering	Chapter 13	7
	11/7, Wed	Climate Change	Chapter 10	
	11/9, Fri* (may potentially be subbed to the X-Hour)	Flex Day	In case we get behind	
10	11/12, Mon	Exam 4		