

# Geography 141: The Natural Environment, Winter 2019 (CRN 23126)

**Lecture:** 12:00-1:20 PM Monday and Wednesdays in 282 Lillis

**Instructor:** Erin Herring

**Email:** [eherring@uoregon.edu](mailto:eherring@uoregon.edu)

**Office:** 245 Columbia

**Office Hours:** Wednesdays 10:30-11:30 and Thursdays 10:00 to 11:00 am, or by appointment

## **GTFs and Weekly Lab Sections:**

**Riley Anderson:** Tuesdays 11:00 am, 12:00 pm, and 1:00 pm in Condon 206

Office: 105 Condon Hall

Email: [roa@uoregon.edu](mailto:roa@uoregon.edu)

Office hours: Wednesdays 11:00-12:00

**Dean Olson:** Thursdays 11:00 am, 12:00 pm, and 1:00 pm in Condon 206

Office: 202 Condon Hall

Email: [deano@uoregon.edu](mailto:deano@uoregon.edu)

Office hours: TBA

**Mike Farinacci:** Fridays 9:00 am, 10:00 am, and 11:00 am in Condon 206

Office: 246 Columbia Hall

Email: [mikef@uoregon.edu](mailto:mikef@uoregon.edu)

Office hours: Wednesdays 10:00-12:00

## **Objectives of the course**

- Using readings, lectures, and laboratories to develop an understanding and appreciation of natural processes that occur every day or over every year. The basics of meteorology (study of the atmosphere and weather), climatology (longer-term trends in weather and its variation over the earth), biogeography (distribution of life on earth) and geomorphology (processes that shape the surface of the earth).
- Students will understand the important properties of maps and students will use maps and digital mapping tools to explore spatial patterns on earth.
- Topics in meteorology will range from why weather changes daily to the causes of global patterns of climate. Students will be able to interpret patterns, and explain causes, of maps of various weather elements (temperature, air pressure, humidity, wind).
- In climatology, students will study the causes of seasonal patterns of temperature and rainfall in different locations on earth. Students will be able to link the causes of these seasonal patterns to patterns in atmospheric circulation, and the role of various other factors such as elevation and location within continents. Last, students will be able to roughly locate climatic data (presented as a graph) to actual locations on earth.
- In biogeography, students will be able to explain why climates produce major biome types on earth, including the causes of the changes in vegetation in Oregon.
- In geomorphology and hydrology, students will understand the pathways of water from precipitation to ocean and atmosphere, and how rivers sculpt the surface of the earth. Students will be able to identify mass-wasting and glacial features from topographic maps.

## Required materials

1. There is no required textbook for this course. Instead we will be relying on open source material from several textbooks for our readings. All readings will be posted on Canvas. If a topic interests you, please feel free to read on! Climatology, biogeography, and geomorphology are all 300-level Geography courses where you can pursue these topics in more detail.
2. **iClicker2** remote control (available in the Bookstore). Do NOT purchase i>clicker REEF polling for your phone. You will need the physical device. You must bring this to lecture every day and register it on Canvas. We will start using them the **SECOND** day of class (Jan 9<sup>th</sup>).
3. **Laboratory Instructions**. These will be made available to you via Canvas. We expect you to review them before the lab section.
4. **Google Earth** desktop application, version 6 of higher (free software).
5. Additional and supplementary materials will be made available on Canvas ([canvas.uoregon.edu](https://canvas.uoregon.edu)).

## Grading

Two fieldwork assignments (10% of total), in-class iClicker Questions (10% of total), two exams (40% of total), and weekly laboratories (40% of total). You must receive a passing grade in lab in order to pass the class. The final grade scale is as follows: A+: >98%; A: 92-98%; A-: 90-92%; B+: 88-90%; B: 82-88%; B-: 80-82%; C+: 78-80%; C: 72-78%; C-: 70-72%; D+: 68-70%; D: 62-68%; D-: 60-62%; F: <60%). Grades will be posted on Canvas along with any announcements. I reserve the right to offer extra credit, but you should not expect it or ask for it. If you have questions about your overall grade(s), please make an appointment with me or with your GTF to discuss your concerns.

### Fieldwork exercises (10% of total grade)

It is challenging to get large classes outside, but the ability to look around and understand what is going on is an important component of this course and to your capacity to interpret the world. The two fieldwork exercises will not be very time consuming, but will require you to get out look around. They will be posted in Canvas.

### In-class iClicker Questions (10% of total)

There will be **DAILY** lecture questions (usually 3 per lecture), starting on the **SECOND** day of lecture (Jan 9). These questions must be submitted via the **i>Clicker remote control** in class during the allotted time. Questions will be based off of information covered in the prior lecture, readings for the day, and material covered that day in class. These questions will be asked randomly throughout the lecture, so be prepared. You will receive two points for every correct answer to a quiz question, and one point for every incorrect answer. Your three lowest daily scores will be dropped for the final calculation of your grade. There are no make-ups for these questions. You will need to REGISTER your iClicker on Canvas.

### Exams (40% of total grade)

There will be two tests, Exam 1 (20%) and Exam 2 (20%). Students who miss a test without a documented excuse will receive a score of ZERO for that test. Makeups for missed exams will require a documented excuse (medical, emergency, etc.). Except in the case of true emergencies, you must contact me prior to the exam if you are going to miss it; otherwise you will receive a grade of zero. University policy requires students take the final exam on the scheduled final exam date/time; wishing to take the exam early so that you can leave campus early is not a valid excuse to take a make-up exam.

### Lab (40% of total grade)

The weekly one hour labs are major part of this course. If your average grade for the labs (after dropping the lowest lab grade) is not a passing grade (>60%), you will not pass the course. The labs provide you with the opportunity to apply some of the concepts you have learned in class and in readings, to ask questions about points that interest or confuse you, and to get to know your classmates better. If you do not attend lab, you will not receive credit for that week's lab assignment unless you have a documented excuse. If you cannot for a valid reason attend a lab, you must communicate this in advance of the lab with your GTF. Labs begin during week 1. Many of the lab activities, as well as all of the answering of lab questions will take place online, so it is very much to each student's benefit to bring a laptop to the lab period. Your lab instructor will discuss the lab practices in more depth.

You will most likely not finish the lab during the lab period, so you will have to put in some time outside the 50-minute period to complete the lab. It is to your advantage to read through the lab before the lab session. This will allow you to ask questions about any parts that cannot be finished during the lab period. You will enter your lab answers and submit them by computer via Canvas. Labs are due by 11:59 pm six days after the lab (e.g. Wednesday labs are due on the following Tuesday at 11:59 pm). Your lowest lab grade of the quarter will be not be included in the final tally. Cheating on labs will not be tolerated and will be reported to the Student Judicial Affairs Office.

Late submissions: You have three additional days to submit a late assignment. Each day after the due date results in a reduction of 20% of the grade.

### **Attending Lecture and Completing the Readings**

To do well in this course, you will need to come to lecture and keep up with the readings. The information being taught is cumulative: you will not understand material if you skip sections. There will be examples provided during lecture that are not in the text but will nevertheless be covered on the exams.

During lecture please be respectful of everyone's learning experience. This includes:

- No talking amongst each other. Please leave your social conversations for outside the classroom. However, questions during lectures are encouraged. If you have a question, raise your hand, catch me after class, or post it to our online discussion board.
- Please don't leave in the middle of lecture. It is distracting for many people, including me. If you need to leave sit near an exit.
- Do not have your laptop open to surf the web. I reserve the right to ban laptop use at any particular point during the term. Note taking on laptops is allowed, however taking notes by hand has been shown in several studies to improve performance in comparison to note-taking on laptops.

Assigned readings should be completed prior to the corresponding lecture. You are required to read the current week's lab prior to attending lab.

### **Contacting me**

The fastest way to contact me is via email. When asking me questions about the policies of the class, remember that the reading assignments, exam dates, as well as policies on late/make-up work are clearly stated in this syllabus. Be sure to reach out to our discussion board as well, because you may get a quicker response to your question(s).

### **Academic Dishonesty**

**I will not** tolerate cheating or academic misconduct/dishonesty in my courses; examples of these behaviors include (but are not limited to):

1. Plagiarism (passing off the work of another as that of your own). Plagiarizing occurs when you copy materials from other sources without citing the source (i.e., taking credit for someone else's work), or copy someone else's lab. All students should be familiar with the material in this guide on avoiding plagiarism (<http://researchguides.uoregon.edu/citing-plagiarism/plagiarism>).
  - Copying answers from your neighbors during exams/activities
  - Dishonesty concerning reasons for absence from class
  - Any other actions that might give you an unfair advantage over your classmates.

All cases of academic dishonesty/misconduct will be referred immediately to the Student Judicial Affairs Office. The penalties for engaging in academic dishonesty and/or misconduct can range from a grade of "F" for an assignment to an automatic failure of the course. Please consult the university policy at <https://dos.uoregon.edu/social-misconduct>

### **Late/Make-Up Work**

Late labs will not be accepted and make-up work will not be assigned, except in extreme circumstances and where you have documentation (i.e. doctor's note). If you must miss a lab section or exam due to illness or other unavoidable circumstances, you **MUST** notify the instructor prior to missing if possible.

**Disability Services Notice** I work hard to ensure a quality learning experience for all students. If you need specific accommodations to get the most out of this class, please let me know by (1) informing me of your particular needs, and (2) providing the appropriate documentation from the campus learning services office. I will make every effort to accommodate your needs, but you must notify me by the first week of class if you need special arrangements.

**Note:** I consider this syllabus a contract between myself and the students in this course. In writing this syllabus, I have obligated myself to follow the policies and procedures contained herein. You are responsible for understanding and following these policies as well. I reserve the right to make changes to this syllabus. You will receive verbal and written notification of major changes to course policies, procedures and content.

### **Readings:**

All readings will be from open source material online. For some of these documents, you will need to create an account in order to access the material. Here is a list of some of the sources we will be using:

- Dynamic Earth: Introduction to Physical Geography
  - Dastrup, A.R. Available at: <https://physicalgeog.pressbooks.com/>.
- The Physical Environment: An Introduction to Physical Geography
  - Ritter, M.E. Available at: [http://www.earthonlinemedia.com/ebooks/tpe\\_3e/title\\_page.html](http://www.earthonlinemedia.com/ebooks/tpe_3e/title_page.html).

## Class Schedule

Week	Date	Topic	Reading
1	Jan 7	Introduction: Geography and Planet Earth	Required: <a href="https://physicalgeog.pressbooks.com/chapter/one/">https://physicalgeog.pressbooks.com/chapter/one/</a> (Chapter 1) Optional: <a href="http://sofia.fhda.edu/gallery/geography/lessons/lesson01.html">http://sofia.fhda.edu/gallery/geography/lessons/lesson01.html</a>
	Jan 9	Mapping Earth's surface, Earth-Sun relationships	Required: <ul style="list-style-type: none"> <li><a href="http://nsdl.oercommons.org/courses/fundamentals-of-physical-geography-2/view">http://nsdl.oercommons.org/courses/fundamentals-of-physical-geography-2/view</a> (all of Chapter 2)</li> <li><a href="http://www.earthonlinemedia.com/ebooks/tpe_3e/earth_system/">http://www.earthonlinemedia.com/ebooks/tpe_3e/earth_system/</a> (Size and Shape through Day Length and Seasons)</li> </ul> Optional: <a href="http://sofia.fhda.edu/gallery/geography/lessons/lesson02.html">http://sofia.fhda.edu/gallery/geography/lessons/lesson02.html</a>
	<i>Lab 1</i>	<i>Map skills (units, scales, projections, locations, isolines)</i>	
2	Jan 14	Radiation and the heat balance; the Greenhouse Effect; Composition of the Atmosphere	Required: <a href="http://www.physicalgeography.net/fundamentals/chapter7.html">http://www.physicalgeography.net/fundamentals/chapter7.html</a> (Chapter 7a-7i) Optional: <ul style="list-style-type: none"> <li><a href="https://www.weather.gov/jetstream/atmos_intro">https://www.weather.gov/jetstream/atmos_intro</a></li> <li><a href="http://sofia.fhda.edu/gallery/geography/lessons/lesson03.html">http://sofia.fhda.edu/gallery/geography/lessons/lesson03.html</a></li> </ul>
	Jan 16	Temperatures of the Lower Atmosphere	Required: <a href="http://www.physicalgeography.net/fundamentals/chapter7.html">http://www.physicalgeography.net/fundamentals/chapter7.html</a> (Chapter 7j-7m)
	<i>Lab 2</i>	<i>Earth-Sun relationships</i>	
3	Jan 21	<b>NO CLASS</b> Martin Luther King Holiday	
	Jan 23	Atmospheric Pressure: Winds; small scale wind systems	Required: <a href="http://www.physicalgeography.net/fundamentals/chapter7.html">http://www.physicalgeography.net/fundamentals/chapter7.html</a> (Chapter 7n-7r)
	<i>Lab 3</i>	<i>Temperature</i>	
4	Jan 28	Global air pressure gradients, Coriolis forces and geostrophic winds; Ocean currents	Required: <a href="http://www.physicalgeography.net/fundamentals/chapter7.html">http://www.physicalgeography.net/fundamentals/chapter7.html</a> (Chapter 7j-7m)
	Jan 30	Atmospheric moisture and the water balance	Required: <a href="http://www.earthonlinemedia.com/ebooks/tpe_3e/atmospheric_moisture/title_page.html">http://www.earthonlinemedia.com/ebooks/tpe_3e/atmospheric_moisture/title_page.html</a> (Chapter 7)
	<i>Lab 4</i>	<i>Global circulation, humidity, adiabatic processes and weather</i>	
5	Feb 4	Weather: Air masses, lapse rates, clouds, precipitation, atmospheric stability	Required: <a href="https://www.opengeography.org/ch-11-weather-processes-and-systems.html">https://www.opengeography.org/ch-11-weather-processes-and-systems.html</a>
	Feb 6	Climate Classification & Climates of the World	Required: <a href="https://www.opengeography.org/ch-12-climate-systems-and-change.html">https://www.opengeography.org/ch-12-climate-systems-and-change.html</a> (through polar climates)
	<i>Lab 5</i>	<i>Global Climates</i>	
6	Feb 11	Midterm Exam	
	Feb 13	Natural climate change and human impacts on climate	Required: <a href="https://www.opengeography.org/ch-12-climate-systems-and-change.html">https://www.opengeography.org/ch-12-climate-systems-and-change.html</a> (Climate change in Earth's history through the end)

			Optional: <a href="https://www.oercommons.org/courses/physical-geography-2/view">https://www.oercommons.org/courses/physical-geography-2/view</a> (Climate Systems and Change)
		<b>NO LAB THIS WEEK</b>	
7	Feb 18	Biogeochemical cycles (carbon and nitrogen)	<a href="https://en.wikibooks.org/wiki/Ecology/Biogeochemical_cycles">https://en.wikibooks.org/wiki/Ecology/Biogeochemical_cycles</a>
	Feb 20	Biogeographic processes	Required: <a href="http://www.earthonlinemedia.com/ebooks/tpe_3e/biogeography/title_page.html">http://www.earthonlinemedia.com/ebooks/tpe_3e/biogeography/title_page.html</a> (Chapter 12)
	<i>Lab 6</i>	<i>Climate change</i>	
8	Feb 25	Phytogeography (distribution of plants) and mapping vegetation	Required: <ul style="list-style-type: none"> <li>• <a href="https://en.wikipedia.org/wiki/Phytogeography">https://en.wikipedia.org/wiki/Phytogeography</a></li> <li>• <a href="http://www.earthonlinemedia.com/ebooks/tpe_3e/biomes/title_page.html">http://www.earthonlinemedia.com/ebooks/tpe_3e/biomes/title_page.html</a> (Chapter 13)</li> </ul>
	Feb 27	Zoogeography (distribution of animals)	Required: <a href="https://en.wikipedia.org/wiki/Zoogeography">https://en.wikipedia.org/wiki/Zoogeography</a> <a href="https://en.wikipedia.org/wiki/Species_distribution">https://en.wikipedia.org/wiki/Species_distribution</a>
	<i>Lab 7</i>	<i>Topographic maps, air photos, and mapping vegetation</i>	
9	March 4	Weathering: physical and chemical; Mass wasting: landslides and debris flows	Required: <a href="https://www.oercommons.org/courses/physical-geography-2/view">https://www.oercommons.org/courses/physical-geography-2/view</a> (Weathering, Erosion, and Deposition- <a href="#">Introduction to Weathering, Erosion, and Deposition</a> to <a href="#">Ground Water Erosion and Deposition</a> )
	March 6	Landscapes shaped by streams	Required: <a href="http://www.earthonlinemedia.com/ebooks/tpe_3e/fluvial_systems/title_page.html">http://www.earthonlinemedia.com/ebooks/tpe_3e/fluvial_systems/title_page.html</a> (Chapter 18)
	<i>Lab 8</i>	<i>Landforms and mass wasting</i>	
10	March 11	Snow and Groundwater	Required: <a href="http://www.earthonlinemedia.com/ebooks/tpe_3e/glacial_systems/title_page.html">http://www.earthonlinemedia.com/ebooks/tpe_3e/glacial_systems/title_page.html</a> (Chapter 19)
	March 13	Glacial erosion; continental and alpine glaciation	
	<i>Lab 9</i>	<i>Stream processes</i>	
FINALS WEEK	March 20 10:15	<b>Final Exam - 10:15 Wednesday, March 20</b>	

