

# Geography 321: Climatology



**Spring 2017, 12:00-1:20 T & Th, McKenzie 240C**

Instructor: Aaron Zettler-Mann, 105 Condon Hall, [azettler@uoregon.edu](mailto:azettler@uoregon.edu)

Office hours: Tuesday 2:00-3:00; Wednesday 1:00-2:00

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## TEXT

Barry, Roger G., and Eileen A. Hall-McKim. *Essentials of the Earth's climate system*. Cambridge University Press, 2014

Additional readings as assigned in class

Prerequisites: Geog 141, or consent of instructor.

Course web page: <http://canvas.uoregon.edu/>

Weather and climate page: <http://geog.uoregon.edu/weather/>

## GRADING

Grades will be based on two examinations, four quizzes, plus the completion of ten exercises that will involve the analysis of information from the internet and Canvas that illustrates the day-to-day and seasonal variations of weather and climate. The assignment and exam break-down are as follows:

Exam 1:	20%
Quizzes (4):	10% total
Exercises (10):	40% combined
Final Exam:	30%

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## LECTURE TOPICS

- Introduction – the climate system
- Composition and structure of the atmosphere
- Energy balance of the earth and atmosphere
- Atmospheric moisture
- General circulation of the atmosphere
- Airmasses and fronts, interannual climate variations
- Upper-level flow and surface-weather features
- Midlatitude cyclones and severe weather
- Tropical storms and hurricanes
- Air pollution and heat islands
- Climate history
- Climate change and future climates

## **COURSE DESCRIPTION**

This course is designed to provide you with a strong foundational understanding of the world's climates at a variety of spatial and temporal scales. We will begin with the composition of the atmosphere and the driving mechanisms and forces which control global circulation patterns and weather. We will also explore regional and local weather phenomenon, include interpreting surface weather maps. The course will finish with a discussion of humans' influence on climate and how that may affect future weather.

Through the successful completion of this course, students will know the composition of the atmosphere and be able to describe the driving mechanisms and forces controlling global climate patterns. Students will also be able to interpret weather maps and the associated symbols, and use those maps to describe local weather. In addition, students will be able to describe how the Earth's climate has changed historically, how humans have influenced Earth's climate, and implications of Earth's future climate.

## **ACADEMIC INTEGRITY**

Violations of academic integrity, such as cheating and plagiarism, will not be tolerated. You may work with other students on exercises, but all the work (tests, quizzes and exercises) that you turn in for a grade must be your own work, in your own words, and produced exclusively for this course. Violators may receive an F or N. Violations or suspected violations will be reported to the Director of Student Conduct. For the consequences of academic misconduct, or if you are in doubt regarding what constitutes academic misconduct, please consult Academic Misconduct under the Student Conduct Code at <http://uodos.uoregon.edu/StudentConductandCommunityStandards>, or ask the instructor or GTF.

## **ACCOMMODATION FOR STUDENTS WITH DISABILITIES**

The University of Oregon is working to create inclusive learning environments. Please notify me if aspects of the instruction or course design result in disability related barriers to your participation or you have a notification letter. You are also encouraged to contact the Accessible Education Center (164 Oregon Hall; 541-346-1155; <http://aec.uoregon.edu>).