

GEOGRAPHY 1900
Extreme Weather and Climate
Spring Semester 2016

Instructor: Alvaro Montenegro

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Office Hours: Mondays and Wednesdays, 1:00-2:00 PM OR **by appointment**

Teaching Assistants:

Christian Feliciano-Camacho

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Office Hours: Tuesday, 12:00-2:00 PM OR by appointment

Alexander McCarthy

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Office Hours: Thursday 12:00-2:00 PM OR by appointment

Seth Warthen

Office: Derby Hall (DB) 1070

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Phone: 292-2705

Office Hours: Monday 2:10-4:10 PM OR by appointment

Course Details

Lecture: Monday, Wednesday and Friday, 11:30 AM to 12:25 PM Stillman Hall (SH) 100

Labs: 19013 - Monday, 12:45 – 2:05 PM in Derby Hall (DB) 0070 (Warthen)

19014 - Wednesday, 12:45 – 2:05 PM in Derby Hall (DB) 0070 (Feliciano-Camacho)

19015 - Monday, 9:35 – 10:55 AM in Derby Hall (DB) 0070 (Warthen)

19016 - Wednesday, 9:35 – 10:55 AM in Derby Hall (DB) 0070 (Feliciano-Camacho)

26917 - Friday, 12:45 – 2:05 PM in Derby Hall (DB) 0070 (McCarthy)

26961 - Friday, 9:35 – 10:55 PM in Derby Hall (DB) 0070 (McCarthy)

Course Materials

Text: Aguado, E. and J. E. Burt, 2012. *Understanding Weather and Climate*, 7th edition.

Pearson Education, Inc. Upper Saddle River, NJ. (ISBN: 9780321769633) (**Suggested**)

Lab Manual: Course packet distributed by UniPrint at <http://uniprint.osu.edu>, available at OSU Bookstores (at Central Classroom and South Campus Gateway Barnes & Noble) (**Required**)

Website: The Carmen course management system <http://carmen.osu.edu>

Course Description

This course will serve as an introduction to the study of the atmosphere. The primary objective of this course is to provide students with a comprehensive understanding of the atmosphere and the processes that govern its behavior. In this course students will be exposed to various aspects of meteorology, including the structure and behavior of the atmosphere, global energy balance and transfer, atmospheric circulation, precipitation processes, weather systems and severe weather. This course will emphasize the inter-relationship existing between the atmosphere, hydrosphere, biosphere and lithosphere and will illustrate how the movement of matter and energy between these spheres is responsible for the weather, climate and environments we experience on Earth.

Science GEC Course

Natural Science coursework fosters students' understanding of the principles, theories, and methods of modern science, the relationship between science and technology, the implications of scientific discoveries and the potential of science and technology to address problems of the contemporary world.

1. Students understand the basic facts, principles, theories and methods of modern science.
2. Students learn key events in the history of science.
3. Students provide examples of the inter-dependence of scientific and technological developments.
4. Students discuss social and philosophical implications of scientific discoveries and understand the potential of science and technology to address problems of the contemporary world.

Student Evaluation

Participation: Participation will be based on lecture attendance. Each student is entitled to one unjustified absence.

Labs: Laboratory exercises will be conducted during recitations. Attendance is required. Students should read through each lab and be prepared **PRIOR** to the lab session. It is the responsibility of each student to turn in the required laboratory exercise at the beginning of class on the due date. All lab exercises must be completed **INDIVIDUALLY**, although working in groups is encouraged.

Exams: There will be four exams (three midterms and a final). Material presented in lecture and/or lab is fair game for the exams. Exams, including the final, are mostly non-cumulative but questions about some important themes/concepts will present in more than one exam. These themes/concepts will be clearly communicated to the class prior to exams. Make-up exams are only allowed in the event of a documented emergency or through **PRIOR** consent of the instructor. All exams will take place at the regular lecture room. Midterm exams occur during regular lecture hours and the final exam will take place in the regular lecture room on Friday, April 29 from 12:00 to 1:45 PM.

Final grade determined as follows:

Participation:	10%
Lab:	30%
Midterm Exam 1:	10%
Midterm Exam 2:	15%
Midterm Exam 3:	15%
Final Exam:	20%

Special Statement Regarding Absences

Based on the Office of the Provost recommendations on the current flu situation, students that feel ill are encouraged to stay home and isolate themselves from others. In addition, the “Explanatory Statement for Absence from Class” self-reporting form available online (<http://shc.osu.edu/posts/documents/absence-excuse-form.pdf>) from the Wilce Student Health Center will be accepted as documentation of medical absence and reasonable efforts will be made to provide for make-up work opportunities. All make-ups from documented absences must be **completed within one week** of the original scheduled date.

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term “academic misconduct” includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct webpage (http://studentaffairs.osu.edu/resource_csc.asp).

Disability Services

Students with disabilities that have been certified by the Office for Disability Services (150 Pomerene Hall, telephone 292-3307, TDD 292-0901) will be appropriately accommodated, and should inform the instructor of their needs at the **beginning of the term**.

Lecture Schedule*

Lecture**	Chapter	Theme
1	1	Composition of the Atmosphere
2	1/2	Comp. of the Atm./Radiation
3	2	Radiation in the Atmosphere
4	2/3	Seasons/Energy Balance
February 1		First Midterm
5	3	Temperature
6	4	Pressure and Wind
7	4/5	Pressure and Wind /Moisture
8	5/6	Moisture / Cloud Formation
9	7	Precipitation Processes
March 2		Second Midterm
10	8	Atmospheric Circulation
11	8/9	Air Masses and Fronts
12	10	Mid Latitude Cyclones
13	11	Tornadoes
April 1		Third Midterm
14	12	Tropical Cyclones
15	15/16	Climate and Climate Change
16	15/16	Climate and Climate Change
17	14	Atmospheric Pollution
April 29		Final - 12:00 - 1:45 PM

*This is a tentative schedule. While exam dates will not change, the actual material presented in lectures at the time of any exam might not mirror the schedule precisely. The material covered in each exam will be clearly defined and communicated to the class by the instructor.

**Lecture here means a cohesive presentation covering a whole theme, not a 55-minute class. Almost all lectures will be presented over more than one 55-minute class.