Geography 1900
Extreme Weather and Climate
Summer Term 2015 (Class # 13677**)**

Instructor: Scott Reinemann, PhD
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Office Hours: Tuesday & Thursday, 9:30-11:00 AM OR **by appointment**

Course Details

Lecture:
Tuesday & Thursday, 12:10-2:00 PM in Smith Lab (SM) 1009

Lab:
Tuesday & Thursday, 10:05-11:55 AM in Derby Hall (DB) 0070
Tuesday & Thursday, 2:30-4:20 PM in Derby Hall (DB) 0070

Teaching Assistant: Daniel D'Amico, PhD Candidate
Office: Derby Hall (DB) 1070
Email: damico.43@osu.edu -**preferred**
Phone: 614-292-2705
Office Hours: Wednesday & Friday, 11:00AM – 12:00PM OR **by appointment**

Course Materials

Text: Aguado, E. and J. E. Burt, 2012. *Understanding Weather and Climate*, 6th 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) ***(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.

Goals for Natural 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*:** Students are required to attend lectures. We reserve the right to use any means necessary (e.g. taking attendance, pop quizzes, in-class exercises, etc.) to ensure high attendance and participation levels throughout the quarter.

***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 three exams (two midterms and a final). Material presented in lecture and/or lab, is fair game for the exams. Make-up exams are only allowed in the event of a documented emergency or through **PRIOR** consent of the instructor.

Final grade determined as follows:

Participation:	**5%**
Lab:	**30%**
Midterm Exam 1:	**20%**
Midterm Exam 2:	**20%**
Final Exam:	**25%**

Email Etiquette:

When you email me, keep in mind these four expectations: ***1) You need to use your OSU email address*** (my spam filters may not accept other email communications); ***2) Identify yourself at the beginning of the message*; *3) You need to identify the class*** (e.g.: "This is Jane Doe, from your PS 4139 class). ***4) Make certain that you write in a clear, direct manner*:** This should be written as a professional communication, not as an informal message. I will do my best to respond to your email within 24 hours.

Classroom Etiquette

Please come to class on time. Please minimize eating, drinking or talking so as not to disturb the other students. Anyone surfing the web or using cell phones to make/receive calls or text messages during class will be asked to leave.

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 semester.**

Wk	Topic	Lecture	Date	Text	Lab
1	*Energy and Mass*	1. Comp & Struct of the Atmosphere	T 6/16	Chpt 1	Lab 1: Intrs & Meas.
		2. Solar Radiation 3. The Seasons & Energy Balance	Th 6/18	Chpt 2/3	Lab 2: Vert Profiles
2		4. Temperature 5. Atmospheric Pressure and Wind	T 6/23	Chpt 3/4	Lab 3: Heat Transfer
	Water in the Atmosphere	6. Atmospheric Moisture	Th 6/25	Chpt 5	Lab 4: Surface Elements
3		**MIDTERM EXAM 1**	T 6/30		
		7. Atmospheric Stability & Clouds	Th 7/2	Chpt 6	Lab 5: Forces in Atmos.
4		8. Precipitation	T 7/7	Chpt 7	Lab 6: Moist & Rel Humidity
	Distribution and Disturbance in the Atmosphere	9. Global Circulation 10. Local Winds and ENSO	Th 7/9	Chpt 8	Lab 9: Air Mases & Fronts
5		11. Air Masses and Fronts	T 7/14	Chpt 9	Lab 7: Condensation
		MIDTERM EXAM 2	Th 7/16	Chpt 7	
6		12. Mid-latitude Cyclones	T 7/21	Chpt 10	Lab 8: Microclimates
		14. Thunderstorms and Tornadoes	Th 7/23	Chpt 11	Lab 11: Wx Analysis
7		15. Tropical Cyclones	T 7/28	Chpt 12	
		13. Weather Forecasting	Th 7/30	Chpt 13	
8		**Final Exam (12:00-1:45 PM)**	T 8/4		

Some Tips

(how to do well)

1. Review your notes & text BEFORE every lecture (remember those participations).
2. Show up for class, on time.
3. Observe the weather daily.
4. Pay attention to the web page for updates.