

Geography 1900
Extreme Weather and Climate
Summer Term 2016 (Class #5388)

Instructor: Dan D'Amico, PhD Candidate

Office: [Derby Hall \(DB\)](#) 1083**/1070

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Phone: (614) 688-3936

Office Hours: T 3:00-4:00p/R 12:30-2:30p OR **by appointment**

** - Temporary office location while DB 1070 is remodeled

Course Details

Lecture:

Tuesday & Thursday, 10:00a-12:05p in [Ramseyer Hall \(RA\)](#) 100

Lab:

5389, Tuesday, 12:40-2:45p in Derby Hall (DB) 0070

~~5390, Thursday, 12:40-2:45p in Derby Hall (DB) 0070~~

Please only attend your registered lab section. If you are unable to attend your registered section, please adjust your schedule at buckeyelink.osu.edu.

Course Materials

Text: Aguado, E. and J. E. Burt, 2014: *Understanding Weather and Climate*. 7th ed., Pearson Education, Inc., 600 pp, ISBN: 978-0321987303. (***Suggested, not required***)

Lab Manual: Course packet distributed by UniPrint at uniprint.osu.edu, available at OSU Bookstores (at Central Classroom and South Campus Gateway) (***Required***)

Website: The class will be updated on the Carmen course management system, 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.

Physical Science

1. Students understand the basic facts, principles, theories and methods of modern science.
2. Students understand key events in the development of science and recognize that science is an evolving body of knowledge.
3. Students describe the inter-dependence of scientific and technological developments.
4. Students recognize 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 term.

Labs: Laboratory exercises will be conducted during the laboratory period. Attendance is required. Students should read through each lab and be prepared for the weeks laboratory assignment(s) **PRIOR** to the lab session. It will be the responsibility of each student to turn in the required laboratory exercise(s) 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). Materials presented in lecture and/or lab are fair game for the exams. Exams (including the final) will be non-cumulative, but might contain questions about important themes from prior exams or topics. 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%
Laboratory:	30%
Midterm Exam 1:	20%
Midterm Exam 2:	20%
Final Exam:	25%

Classroom Etiquette

Please arrive to both lecture and laboratory sessions on time. While eating and drinking are permitted, please keep these activities to a minimum, so as to not disturb other students. Talking during lectures should also be limited. Anyone surfing the web or using cell phones to make/receive calls or text messages during class will be asked to leave.

E-mail Etiquette

I have four expectations for when you e-mail me: 1) *You must use your OSU e-mail address* (the OSU spam filter may not accept other e-mail communications); 2) *Identify yourself at the beginning of the message*, 3) *Identify the class* ("This is Brutus Buckeye, from your GEOG 2960 class); and 4) *Make certain that you write in a clear, direct manner*. This should be a professional message, not an informal message. I will do my best to respond to your e-mail within 24 hours.

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 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](#).

Disability Services

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.

Tentative Schedule (*Subject to Change*)

Week	Topic	Lecture	Day	Date	Text	Lab
1	Energy and Mass	1. Comp/Structure of the Atmosphere	R	12-May	1	Lab 1
2		2. Solar Radiation and Heat Transfer 3. The Seasons and Energy Balance	T	17-May	2,3	
		4. Temperature	R	19-May	3	
3		Water in the Atmosphere	5. Atmospheric Pressure and Wind	T	24-May	4
MIDTERM EXAM 1			R	26-May		
4	6. Atmospheric Moisture 7. Atmospheric Stability and Clouds		T	31-May	5,6	Lab 3 and 4
	8. Precipitation		R	2-Jun	7	
5	Distribution and Movement of Air	9. Global Circulation 10. Local Winds and ENSO	T	7-Jun	8	Lab 6 and 7
MIDTERM EXAM 2		R	9-Jun			
6		11. Air Masses and Fronts	T	14-Jun	9	Lab 5
		12. Mid-latitude Cyclones	R	16-Jun	10	
7	Disturbances	13. Thunderstorms and Tornadoes	T	21-Jun	11	Lab 9
		14. Tropical Cyclones	R	23-Jun	12	
8	Human Impacts	15. Human Impacts 16. Climate Change	T	28-Jun	14,16	Lab 8
		FINAL EXAM	R	30-Jun		