

METR 2603 Section 900 – Severe and Unusual Weather

Fall 2012 Edition

Instructor: Mr. Ryan Sobash
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Meeting Times: MW 4:30pm - 5:45pm SEC A235
Office Hours: After class or by appointment (e-mail me!)

Course Description

Provides non-majors and majors a detailed descriptive account of the physical processes important in the formation of various severe and unusual weather phenomena including: thunderstorms, tornadoes, hail storms, lightning, hurricanes, mid-latitude snowstorms, lake effect snows, atmospheric optical effects, and global climate change.

Textbook

Required: *Severe and Hazardous Weather: An introduction to high impact meteorology* (4th edition) by Robert M. Rauber, John Walsh, and Donna Charlevoix. Book website: <http://severewx.atmos.uiuc.edu/>

I will inform you of the readings in the text that correspond to the material presented in class. I will frequently use questions and problems from the text for quizzes and exam questions, but I won't expect you to know anything from the book that is not covered in the lectures.

Desire2Learn

Course announcements, lecture notes, homework assignments, and grades will be posted on the course page in the Desire2Learn system (learn.ou.edu). You can log into the system using your OU 4x4.

Homework Assignments

There will be **6 homework assignments** due throughout the semester that provide an opportunity to apply your knowledge of the lecture material (often to meteorological events that occurred in Oklahoma). **You will have 2 weeks to complete each assignment.** I encourage you to start soon after they are assigned, to provide plenty of time for questions as they arise. The homework assignments will appear on D2L and hard copies are to be handed in at the beginning of class on the listed dates. I'll provide reminders in class as these dates approach.

Late homework will only be accepted for full credit if a valid University-approved excuse is provided. If you will be unable to turn in your homework on a given date, please let me know in advance, as soon as you are aware of the conflict so arrangements can be made. I will accept homework up to a week after the due date, but a 20% late homework deduction will be applied to your homework grade. Since I aim to return graded homework a week after it is due, homework that is turned in after a week will not be accepted and will earn zero credit.

While it is acceptable to work with classmates on these assignments, your answers **must be original**. All assignments with significant similarities will earn no credit and will likely result in all involved parties being referred to the Provost. The policies covering academic misconduct at OU are strict and, once a student is referred, are largely out of my control. Group work is frequently beneficial for building understanding of the course material and concepts, but **you must devise an original, independent solution to each assignment**. If you are having trouble doing so, please let me know. To learn more about the University's efforts to combat academic misconduct, go to <http://integrity.ou.edu>.

In-class exercises and quizzes

There will be 15 in-class quizzes and exercises throughout the semester. **These will be unannounced!** They will cover material presented in the most recent lecture or will be a short guided activity that can be completed in class. Many should be easy for those who regularly attend class and are attentive during lectures. Your highest 12 scores will count toward your overall quiz grade in the course (so, you can drop 3 quiz scores). Extra credit will be provided for students who complete all 15 in-class exercises/quizzes.

Exams

Two mid-term exams and one final exam will provide a means to assess your mastery of the course material. The exam dates are provided in the attached schedule – **please let me know ASAP if you have a conflict with these dates**. Makeup exams will only be offered for University-approved excuses. I will provide a short in-class review session before each exam and will hold special evening office hours to ensure your preparedness.

Grading

In-class quizzes/activities.....	100 pts (16.6%)
Homework assignments.....	150 pts (25%)
Exam 1	100 pts (16.6%)
Exam 2.....	100 pts (16.6%)
Final exam.....	150 pts (25%)

Grades will not be curved, final grades will be assigned as follows:

>= 90% of possible points:	A
80-89%:	B
70-79%:	C
60-69%:	D
<60%:	F

Weather discussions

On days when severe or unusual weather events are occurring within the U.S., I will lead a weather discussion at the beginning of class. ***I encourage your participation during the discussions*** in various ways: asking questions, connecting the current weather to class topics, or suggesting an event to discuss. Living in Oklahoma presents unique opportunities to study and experience many of the extreme weather phenomena we will learn about in class. Regularly scheduled lectures may be preempted for any ongoing severe weather so we can crowd around the windows and watch!

Field trips and guest lectures

It is my belief that a traditional lecture is only one of many ways students can appreciate the exciting nature of severe weather. I'm planning to invite several guests to the class to share their enthusiasm about this subject, and may organize 1 or 2 evening field trips to take advantage of the one-of-a-kind severe weather resources present in Norman (e.g. NWC, radars, etc.). The field trips will be optional, but will be designed to be relatively short (~1 hour). Students who attend will receive extra credit.

For students with disabilities

The University of Oklahoma and myself are committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodation in this course are requested to speak with me as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 325-3852 or TDD only 325-4173.

Academic misconduct (cheating, plagiarism, etc.)

As expressed earlier in this syllabus, academic misconduct, including both cheating and plagiarism, is a serious offense and will not be tolerated. I encourage you to review the University policies and penalties on academic misconduct at <http://integrity.ou.edu> (even if you don't intend on cheating, it is good to review these policies and guidelines for academic misconduct set forth by the University).

METR 2603.900 - FA2012 schedule

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Date			HW	Lecture topic
M	8	20		Unit 1: Atmospheric structure and composition, atmospheric variables, large-scale weather (fronts, airmasses), observing severe weather (radar, satellite, etc)
W	8	22	States quiz	
M	8	27	HW1 begins	
W	8	29		
M	9	3		NO CLASS - LABOR DAY!
W	9	5		Unit 2.1: Thunderstorm development and classification, squall lines, derechos, supercells, tornadoes, tornado research, the VORTEX projects
M	9	10	HW1 due, HW2 begins	
W	9	12		
M	9	17		
W	9	19		
M	9	24	HW2 due	
W	9	26		EXAM #1
M	10	1	HW3 begins	Unit 2.2: Hail, downbursts, lightning, predicting severe thunderstorms
W	10	3		
M	10	8		Unit 3: Hurricanes and tropical storms, predicting hurricanes
W	10	10		
M	10	15	HW3 due, HW4 begins	
W	10	17		Unit 4: Heat waves, drought and wildfires, heavy rain and flooding, mountain waves and windstorms
M	10	22		
W	10	24		
M	10	29	HW4 due	
W	10	31		EXAM #2
M	11	5	HW5 begins	Unit 5: Winter weather: precipitation formation, snow and ice storms, lake-effect snow, winter weather forecasting
W	11	7		
M	11	12		
W	11	14		
M	11	19	HW5 due, HW6 begins	
W	11	21		NO CLASS - THANKSGIVING!
M	11	26		Unit 6: Severe weather warnings and preparedness, impacts of El Nino/La Nina on severe weather, trends in severe weather frequency, final review
W	11	28		
M	12	3	HW6 due	
W	12	5		FINAL EXAM - 10:30AM SEC A235
M	12	10		

Just like Oklahoma weather, this schedule is SUBJECT TO CHANGE!