

METR 2603-001 – Severe and Unusual Weather Fall 2009 Syllabus

Lecture: MWF 9:30 – 10:20 AM, SEC N202

Instructor: Rebekah LaBar (rebekahlabar@ou.edu)

Office: SEC 526/562

Office Hours: MR @ 10:30 – 11:30 AM, or by appointment

Teaching Assistant: Anita Nallapareddy (Anita.Nallapareddy-1@ou.edu)

Content: Severe and Unusual Weather is a non-majors course that serves as a General Education Core II Natural Science Elective (non-lab). It is designed to provide students with an in-depth look at the physical and societal aspects of severe and unusual weather. Specific topics to be covered include thunderstorms, tornadoes, hail, lightning, tropical storms and hurricanes, blizzards, ice storms, lake-effect snowstorms, and severe weather forecasting.

Course Objectives: At the conclusion of this course, students should

- Know basic properties of the atmosphere and how to interpret weather maps, charts, and symbols
- Be able to define meteorological terms and do some basic physical calculations
- Be able to correctly identify severe and unusual weather phenomena and understand their underlying physical processes
- Know and be able to explain climatological and geographical distributions of severe and unusual weather phenomena
- Be able to analyze and discuss meteorological events scientifically
- Understand the societal impacts of severe and unusual weather

Required Textbook: Rauber, Robert M., J. E. Walsh, and D. J. Charlevoix. *Severe and Hazardous Weather: An Introduction to High Impact Meteorology* (3rd ed.), Kendall/Hunt.

(You should have received an exercise book with the text; make sure you have this for homework!!)

Grading:

Exams (3)	45%
Essay	10%
Homework	35%
In-class exercises, quizzes	10%

Grading Scale:	A	90 – 100%
	B	80 – 89%
	C	70 – 79%
	D	60 – 69%
	F	< 60%

Exams: There will be two midterm exams and a final exam. Exams will be weighted equally. The final exam will include basic concepts learned towards the beginning of the course (such as weather maps), as some of the material builds on itself, but it will largely be based upon material from the last third of the class. Study guides and review sessions will be provided prior to each exam.

Exams **must** be taken on the scheduled date, with few exceptions, at the discretion of the instructor. If you have a legitimate reason to be absent from an exam, such as an illness, immediate family emergency, or university-excused absence, please let me know as soon as possible, preferably before the exam. In such a case, with appropriate documentation, a make-up exam may be given.

Essay: Choose a severe and/or unusual weather event to study. The event may be either current or historical. You must write a 4-5 page (double-spaced) essay about the event, demonstrating a clear understanding of how the event relates to concepts learned in class.

Homework: Various homework assignments will be given throughout the semester, based on concepts learned in class. Most of the homework assignments will be directly from the exercise book accompanying the textbook. Homework **must** be turned in on the assigned due date. Homework that is up to one class day late will only receive half credit. Homework that is more than one class day late will receive NO credit.

You may work on your homework with other students, but keep in mind that you should arrive at your solutions independently (or ask someone to explain their answer to you), rather than copying someone else's work. Remember, homework assignments are given not just to show me what you've been learning, but also to help you put into practice the concepts you've learned. Understanding the homework will help you to be prepared for the exams. If you have any questions about homework or course material, please ask me or Anita as soon as possible. Don't be afraid to ask for help!

Attendance: Although attendance is not required, you are expected to attend every lecture. In-class exercises, including pop quizzes, will factor into your class grade. These exercises cannot be made up; there are no exceptions to this rule. Most course material builds on itself, so it is to your advantage to attend every lecture in order to maintain continuity of information.

Student Conduct: All laptops must remain closed and all cell phones must be turned off or turned to silent during lectures. Please help to make the class a positive learning environment. All students are expected to be familiar with and abide by the OU Academic Misconduct Code. Information on this code and other student policies is located at <http://studentconduct.ou.edu>.

Academic Integrity: Academic misconduct, including cheating on exams and plagiarizing, *will not be tolerated* in this course. All students are encouraged to read the official University policy on academic integrity and misconduct at <http://www.ou.edu/provost/integrity>. All alleged instances of academic misconduct will be investigated and, if substantiated, appropriate admonitions will be imposed.

Student Privacy: I am committed to keeping all your personal information and grades private in accordance with the Federal Educational Rights and Privacy Act. As such, I will not share information on your performance in this class with any third party without written permission from you, the student.

Disability Policy: The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations 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.

Class Schedule

(Note: Schedule is fluid and subject to change)

August 24 – August 28: Atmospheric properties, measurements

- *Chapters 1 and 2*

August 31 – September 4: Measurements, weather maps, forecast models

- *Chapters 2 – 4*

September 9 – September 11: Forecast models, climate

- ***NO CLASS on Monday, September 7th*** – Labor Day Holiday
- *Chapters 4 and 5*

September 14 – September 18: Climate, climate change, stability, forces and force balances

- *Chapters 5 – 7*

September 21 – September 25: Forces and force balances, pressure systems, air masses, fronts

- ***Essay topic paragraph DUE on Monday, September 21st***
- *Chapters 7 – 9*

September 28 – October 2: Air masses, fronts, extratropical cyclones

- ***EXAM #1 on Friday, October 2nd***
- *Chapters 9 – 10*

October 5 – October 9: Extratropical cyclones, thunderstorms

- *Chapters 11 and 18*

October 12 – October 16: Tornadoes

- ***NO CLASS on Friday, October 16th*** – OU Fall Holiday, OU – UT weekend (BOOMER SOONER!)
- *Chapter 19*

October 19 – October 23: Hail, lightning

- *Chapters 20 and 21*

October 26 – October 30: Downbursts, microbursts, El Niño, La Niña, Southern Oscillation

- *Chapters 22 and 23*

November 2 – November 6: Tropical cyclones, floods

- ***Essay outline DUE on Monday, November 2nd***
- *Chapters 24 and 25*

November 9 – November 13: Floods, drought

- ***EXAM #2 on Monday, November 9th***
- *Chapters 25 and 26*

November 16 – November 20: Heat waves, cold waves, freezing precipitation

- *Chapters 27, 14, and 12 (addressed in that order)*

November 23 – November 27: Ice storms

- ***NO CLASS** from Wednesday, November 25th through Friday the 27th – Thanksgiving Holiday*
- *Chapter 12*

November 30 – December 4: Lake-effect snowstorms, blizzards, mountain snowstorms

- *Essay **DUE** on Friday, December 4th*
- *Chapters 13, 15, and 16*

December 7 – December 11: Mountain windstorms, TBD

- *Catch-up week, videos, any other weather topics YOU wish to discuss, course review, etc.*
- *Chapter 17*

FINAL EXAM (EXAM #3) on FRIDAY, DECEMBER 18th from 8:00 – 10:00 AM!!!!