METR 2023 Sec. 270: Introduction to Meteorology II
Course Syllabus
Summer 2013

Class time: 1:00pm-2:15pm MTWRF
Instructor: Ethan Cook
Office: NWC 5345
Email: ecook@ou.edu
Office hours: 2:30pm – 3:30pm MTWRF, or by appointment
Course web page: https://learn.ou.edu (log on using your 4+4)

Required Text*:* Meteorology Today, by C. Donald Ahrens, 9th ed.

Course Grade Determination:

2 in-class exams @ 20% each (no drops)	40%
Assignments	30%
Comprehensive Final Exam	30%

About this course: Meteorology 2023 is the second part of the qualitative *and* quantitative introductory meteorology course for meteorology majors. We will focus on the introductory concepts of atmospheric dynamics, weather systems of different origins and scales, thunderstorms, boundary layer meteorology, air pollution, forecasting and climate change. The course is intended to prepare students for junior-level meteorology coursework. Students will use math frequently throughout the course.

Although class attendance is not formally a part of your grade for this course, you will get much more out of the course and have a much easier time with the material if you attend class. In addition, we will cover some topics in greater depth or detail in lectures than the course textbooks.

I will make every effort to post lecture presentations on the course web site. These presentations, however, will be in PowerPoint form and will tend to *outline* lessons rather than list all the specific information I present in the corresponding lectures. In other words, ***you will need to take notes***. Besides that, your comprehension of the material will be more complete if you are actually in class when it is presented.

If you are having problems with the course material, I urge you to come and talk to me sooner rather than later. I can't do anything if you wait until the last week of class to come and talk to me about problems you've been having all semester.

Important policies:

Homework: Homework will usually be assigned on Mondays at the end of class and will usually be due at the beginning of the following Monday's class period. ALL homework assignments must be submitted electronically via D2L in PDF format; students submitting in other electronic formats do so at their own peril. Late submissions will not be accepted outside of the guidelines set forth by the Provost.

Exams: The following is a tentative schedule of exam dates.

Exam I – Friday July 19 Exam II – Friday August 2 Final Exam – Friday August 16

Material (not necessarily exact questions) for the exams will be drawn from homework problems and lectures and will be both qualitative and quantitative in nature.

Reasonable Accommodation: The University of Oklahoma is 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: All provisions of the Norman Campus Academic Misconduct Code shall apply in cases of academic dishonesty. Any violation of the Academic Misconduct Code will result in your removal from this course, and a grade of F will be recorded for the course. Academic misconduct is defined as "any act that improperly affects the evaluation of a student's academic performance or achievement." At the University of Oklahoma, academic integrity is expected from each student. Misconduct such as plagiarism, fabrication, and fraud, as well as attempting to commit such acts or assisting others in doing so, will not be tolerated. Students are responsible for knowing the OU Academic Conduct Code, which can be found at http://www.ou.edu/studentcode and http://www.ou.edu/provost/integrity

Classroom Etiquette:

This is a large class, and as such it is imperative that everyone make an extra effort to respect others in the class. Students pay to be here - good students are here to learn. You are adults and are expected to behave as such. Below are some basic "rules" to follow while in class:

- Come to class on time and with the expectation of staying in class for the entire period.
- When in class, please turn off cell phones and pagers, and mute the volume on your laptop computer.
- Please do not engage in lengthy discussions with your neighbors.
- Clean up after yourself, i.e., food, drinks, etc.
- Don't read newspapers or other materials not relevant to the lecture during class.
- Please be sure to bring paper and pencil (or pen) to each class.
- Please do not begin to pack your things until the class has been dismissed

Tentative schedule (subject to change)

Date	Topics	Reading
WEEK 1 July 1 July 2 July 3 **NO Class July 4** July 5	Mathematics review, pressure, basic laws, atmospheric forces, wind models, isobaric coordinates	Ahrens – Ch. 2 (review), Ch. 8
WEEK 2 July 8 July 9 July 10 July 11 July 12	Mass conservation, convergence, divergence and vertical motion, direct thermal circulations, local winds.	Ahrens – Ch. 8, 9
WEEK 3 July 15 July 16 July 17 July 18 **July 19 Exam I**	Global circulation, jet streams, ocean currents, El Niño – Southern Oscillation	Ahrens – Ch. 10
WEEK 4 July 22 July 23 July 24 July 25 July 26	Air masses, stability, fronts, thermal wind, geostrophic adjustment, planetary boundary layer, dry lines	Ahrens – Ch. 11, 6
WEEK 5 July 29 July 30 July 31 August 1 **August 2 Exam II**	Frontogenesis, frontolysis, absolute, relative and potential vorticity, evolution and propagation of mid-latitude cyclones	Ahrens – Ch. 11, 12
WEEK 6 August 5 August 6 August 7 August 8 August 9	Modern weather forecasting process, thunderstorms and tornadoes	Ahrens – Ch. 13, 14
WEEK 7 August 12 August 13 August 14 August 15 **August 16 Final Exam**	Air pollution and climate change	Ahrens – Ch. 18, 16