

Syllabus— Metr 2013 Fall 2010
TR 11:30-12:45 pm in NWC 1350
Dr. Michael Biggerstaff; email: drdoppler@ou.edu
office: NWC 5417; phone: 325-3881
office hours: by appointment or whenever the door is open

TA: To be announced email: phone: NWC office hours:

Prerequisite: Mathematics 1823 (C or better); corequisite: 2011, Computer Science 1313 or 1323, Mathematics 2423, Physics 2514 or 1205.

Course Objectives: Introduction to **physical meteorology** including the composition and vertical structure of the atmosphere, temperature, heat transfer, solar and terrestrial radiation, radiative balance, seasonal and daily temperatures variations, atmospheric moisture, heat and moisture indices, cloud formation and cloud types, atmospheric stability, cloud microphysics, weather radar and precipitation systems. The topics will be covered as time permits.

Required Texts for the Lectures: **Meteorology Today: An introduction to weather, climate, and the environment**. 8th edition or newer; C. Donald Ahrens. Descriptive text emphasizing concepts and terminology.

Meteorology for Scientists and Engineers. 2nd edition or newer; Roland B. Stull. Mathematically based text for understanding derivations and applying concepts, but weak on motivation.

Strongly recommended text: **Atmospheric Science: An Introductory Survey**. J. Wallace and P. Hobbs. Great text for the mathematically inclined, useful in later courses as well.

My lectures are a blend of material from many sources, especially the texts listed above.

Grades will be determined by the following formula:

3 mid-terms	20% each	=	60%
Homework		=	15 %
<u>Final exam (required)</u>		=	<u>25% (comprehensive)</u>
			100%

Approximately 90 % or better	= A	FIRST EXAM – 16 September.
Approximately 80 to 89 %	= B	SECOND EXAM — 14 October.
Approximately 70 to 79 %	= C	THIRD EXAM— 16 November.
Approximately 60 to 69 %	= D	
Below 60 %	= F	FINAL EXAM — 10 December

3:00-5:00 pm same room

University Excused Make-Up Exam— 23 November during regular class time (must be approved in advance of the missed exam date).

Re-examination: Students may retake ONE and ONLY ONE exam on 23 November from 2:00-4:00 pm (strict ending time) to attempt to improve their original score. If a student chooses this option, the new exam grade will replace the old exam grade regardless of the test scores. In other words, it is possible that a student's grade will be lower after the re-examination. While no attempt is made to increase the difficulty of the second version of exams, past students have often felt that the original exam was less demanding than the second edition.

NOTE: All materials provided you in this class are protected by copyright.

Note: The instructor will have to travel several times during the semester for professional activities. Lectures will be provided by either the TA or a guest lecturer on the days the instructor is unavailable.

Legal Requirements:

1) 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 required to speak with the professor 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 405/325-3852 or TDD only 405/325-4173.

2) Academic integrity policy website information: Details regarding academic integrity can be found at the following website: www.studentconduct.ou.edu.

In addition, persons found, or suspected of, having violated university academic conduct will be punished to the maximum extent allowable. The instructor will do his best to dissuade potential employers from hiring a person found guilty of academic misconduct.

A note concerning "weed-out" courses. Metr 2013 is the first physics and calculus-based meteorology course that our students take. The School has prescribed a set of *Knowledge Expectations* that students should obtain from this course. We will cover almost all those topics, which requires moving at a rapid pace. Many sophomore students consider this material challenging. Since a C or better grade is required to advance to the next course in the curriculum, typically 25-30% of the students in this course find themselves unable to advance to the next class at the end of the semester. However, the School has no quota or limits on advancement. We hope that each student is successful in mastering the material and encourage students to be proactive in seeking outside tutelage as necessary. A student-run help desk is available for meteorology classes through the Student Affairs Committee. In addition, your Teaching Assistant will hold regular office hours and can offer specific guidance related to assignments given in this class. Finally, despite appearances, I am an approachable person and answer email fairly quickly if questions are asked in a timely manner.