

METR 4433
Mesoscale Meteorology

This course is a qualitative and quantitative introduction to mesoscale phenomena in the middle and lower latitudes. Both dynamical and physical interpretations will be made.

Topics include an introduction to mesoscale meteorology, scale analysis, deep and shallow severe and non-severe convection, severe weather phenomena, mountainous flows and precipitation, cellular convection, drylines, land and sea breezes, and hurricanes.

General Information

Instructor: Dr. Jerry M. Straka
Office: 5113 NWC
Phone: 325-5503
E-Mail: jstraka@ou.edu or
jmstraka@cox.net

Grader: Chris Schwarz
Office: 5110 NWC
Phone: 325-3051
E-mail: cmschwarz@ou.edu

Class Room: NWC 5600
Class time: MWF 1:00PM-1:50PM
Office hours: M from 11AM-12PM
Additional office hours: By appointment with 24 hr e-mail notice.

Grading

Homework:	25%	(Five Homeworks)
Test 1:	20%	
Test 2:	20%	(Lowest test worth 10%)
Test 3:	20%	
Comprehensive final:	25%	

100%		

Scores	Grades
94-100	A
87-93	B
80-86	C
75-79	D
<75	F

Books:

Mandatory: An Introduction to Dynamical Meteorology, Latest ed. By J.R. Holton.
Mandatory: Synoptic-Dynamic Meteorology in Midlatitudes, 1& II by H.B. Bluestein
Mandatory: Mesoscale Meteorology, By Y-H Lin.

Prerequisites:

A grade of C or better in Dynamics III and Synoptic Lab is required to be in this class.

Homework Policy:

Homework is due on the day assigned at the end of class. For each day your assignment is late 20 points are dropped. Homework is to be done alone, but you are free to discuss problems with each other.

Accommodations:

Any student in this course who has a disability that prevents them from fully participating and demonstrating their abilities should contact me personally, as soon as practically possible, so we can discuss accommodations necessary to ensure full participation and facilitate educational opportunities. You must be prepared to bring documentation from the office of disability services (325-3852).

Academic Misconduct Including Cheating:

All cases will follow the university guidelines on academic misconduct on the university web pages:

<http://www.ou.edu/provost/pronew/content/integritymenu.html>

Questions about the course:

If you ever have questions about the course or suggestions please notify me during office hours.

Tentative Weekly Planner

Week 1	01/21-01/23	Introduction to Mesoscale Meteorology
Week 2	01/26-01/30	Mesoscale Meteorology
Week 3	02/02-02/06	Mountain Waves
Week 4	02/09-02/13	Planetary Boundary Layer and Dry lines
Week 5	02/16-02/20	Monday Review, Wednesday exam, Friday review exam
Week 6	02/23-02/27	Single Cell Storms, - Structure, Dynamics, Hazards
Week 7	03/02-03/06	Multicell Storms - Structure, Dynamics, Hazards
Week 8	03/09-03/13	Lines of Convection - Structure, Dynamics, Hazards
Week 9	03/16-03/20	Spring Break (March 14-22)
Week 10	03/23-03/27	Monday Review, Wednesday exam, Friday review exam
Week 11	03/30-04/03	Supercell Storms – Structure, Hazards
Week 12	04/06-04/10	Supercell Storms - Dynamics
Week 13	04/13-04/17	Tornado Structure and Dynamics
Week 14	04/20-04/24	Hurricane Structure, Dynamics, Hazards
Week 15	04/28-04/30	Monday Review, Wednesday exam, Friday review exam
Week 16	05/04-05/08	Climate and Storms and Hurricanes, Review
Week 17	05/11-05/15	Comprehensive Final Exam (Tue May 12, 2009: 8AM-10AM)