METR 5113 ADVANCED ATMOSPHERIC DYNAMICS I
FALL 2007
MWF 1:00 - 1:50 PM
National Weather Center (NWC), Room 5600

Instructor:

Alan Shapiro
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ashapiro@ou.edu (email is a good way to reach me -- I read it many times a day)

Office hours:

MWF 2 - 3:00 p.m.
Additional office hours upon request -- just ask! You can also drop by my office anytime
and see if I'm free. I'm usually not here early in the mourning (er, morning).

Required text:


Recommended text:

A list of references and suggested readings will also be distributed on the first day of class.

Class notes:

d Leaders to class notes will be on the web at: http://weather.ou.edu/~ashapiro/METR5113

Prerequisites:

MATH 4163 (Partial Differential Equations) or equivalent coursework.

Grading:

2 in-class exams (30% each)
Final exam (40%)

List of topics (tentative):

Vector and Cartesian tensor analysis. Lagrangian versus Eulerian viewpoints. Streamlines
theory and applications. Bernoulli’s equations and applications. Navier-Stokes
equations and some simple exact solutions. Kinematics of vorticity and circulation.
Linear gravity wave analysis. Shallow water and deep water limits. Dispersion. Group
velocity. Internal gravity waves.

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 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.