

METR 4133, Atmospheric Dynamics III

Fall 2013

- Instructor** Dr. Kelvin K. Droegemeier
Office: Three Partners Place, Suite 190 (325-3806)
Office Hours: Tues/Thurs, 12:45-1:30 pm; Other times by appointment.
Please contact Cathi Parker (clparker@ou.edu)
Use of email is strongly encouraged (kkd@ou.edu)
- Assistant** Mr. Stefan Rahimi (rahimi@ou.edu)
Office: National Weather Center, Room 5110 (471-1117)
Office Hours: MWF, 2:00 – 3:30 pm
- Class Web Site** http://kkd.ou.edu/METR_4133_Fall_2013/METR4133.htm
- Classroom/Time** Room 5600, National Weather Center, Tues and Thurs, 11:30 am – 12:45 pm
- Required Text** Holton, J.R., 2004: *An Introduction to Dynamic Meteorology*, 4th Edition, Academic Press, 535pp. – **OR** –

Holton, J.R. and G.J. Hakim, 2013: *An Introduction to Dynamic Meteorology*, 5th Edition, Academic Press, 532 pp.
- Helpful Texts** Bluestein, H., 1992: *Synoptic-Dynamic Meteorology in Mid-Latitudes, Volume I: Principles of Kinematics and Dynamics*. Oxford Univ. Press, 431pp.

Bluestein, H., 1993: *Synoptic-Dynamic Meteorology in Mid-Latitudes, Volume II: Observations and Theory of Weather Systems*. Oxford Univ. Press, 594pp.

Errata sheets are available at <http://weather.ou.edu/~hblue/corrections>.
- Prerequisites** METR 3123 (Atmospheric Dynamics II) and METR 3223 (Physical Meteorology II) and or equivalents. IF YOU HAVE NOT RECEIVED A GRADE OF “C” OR BETTER IN THE PREREQUISITE COURSES, YOU CANNOT ENROLL IN THIS ONE.
- Expected Topics** Review of quasi-geostrophic (QG) theory; Motion and intensification of surface and upper-level systems; Lifecycle of baroclinic cyclones; Fronts and jets; Alternative formulations of the QG equations; Q-Vectors; IPV thinking; QG potential vorticity; Linear perturbation theory and atmospheric waves; Geostrophic adjustment; If time allows, numerical solutions techniques for simple equations and systems.
- Grading**
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| Homework Problems (4-5 sets) | 30% |
| Mid-Term 1 st Exam (Tuesday, October 15) | 35% |
| Non-Comprehensive 2 nd Exam (10:30 am-12:30 pm on Monday, Dec 9) | 35% |

The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Those having such a need are requested to speak with Dr. Droegemeier as early in the semester as possible. Students with disabilities also must be registered with the Office of Disability Services (ODS) prior to receiving accommodations in this course. You may contact the ODS at Goddard Health Center, Suite 166, phone 405-325-3852 or TTD only at 405-325-4173.

It is the student's responsibility to read and understand the University of Oklahoma Student Code, especially that governing Academic Misconduct. Violations of the Student Code will not be tolerated in this course.