

METR 4133, Atmospheric Dynamics III: Mid-Latitude Synoptic-Scale Dynamics

Fall 2014

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| Instructor | Dr. Xuguang Wang Office: National Weather Center, Room 5341 Email: xuguang.wang@ou.edu Phone: 405 325 3426 Office Hours: Tues and Thurs 12:45-1:45pm |
| Grader | Ms. Yaoyao Zheng (yaoyaozheng@ou.edu) |
| Class Web Site | http://weather.ou.edu/~xwang/METR4133-2014.html |
| Classroom/Time | Room 5600, National Weather Center, Tues and Thurs, 11:30 am – 12:45 pm |
| Required Texts | Bluestein, H., 1992: <i>Synoptic-Dynamic Meteorology in Mid-Latitudes, Volume I: Principles of Kinematics and Dynamics</i> . Oxford Univ. Press, 431pp. Bluestein, H., 1993: <i>Synoptic-Dynamic Meteorology in Mid-Latitudes, Volume II: Observations and Theory of Weather Systems</i> . Oxford Univ. Press, 594pp. Holton, J.R. and G. J. Hakim, 2004: <i>An Introduction to Dynamic Meteorology</i> , 5 th Edition, Academic Press, 532pp. |
| Prerequisites | METR 3123 (Atmospheric Dynamics II) and METR 3223 (Physical Meteorology II) and <u>or equivalents</u> . IF YOU HAVE NOT RECEIVED A GRADE OF “C” OR BETTER IN THE PREREQUISITE COURSES, YOU CANNOT ENROLL IN THIS ONE. |
| Tentative Topics | Review of elementary dynamics, thermodynamics Quasi-geostrophic theory and application Extra-tropical disturbances and baroclinic instability in the context of QG theory Fronts, jets Selected topics on atmospheric predictability, ensemble prediction and data assimilation |
| Grading | Homework Problems (4-6 sets) 25% Mid-Term Exam (Thursday, October 16, in class) 35% Final Exam (10:30 am-12:30 pm on Wednesday, Dec 10) 40% |

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. Wang 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.