Course:

Atm 510 Synoptic-Dynamic Meteorology I Fall 2014
Class Number: 5560; Credits: 3

Schedule:

TuTh 2:45 p.m.–4:05 p.m., ES B13

Professor:

Daniel Keyser, ES 224, 442–4559, dkeyser@albany.edu
Office hours: TuTh 1:00 p.m.–2:00 p.m. and by appointment

Texts:

Holton, J. R., and G. J. Hakim, 2013: *An Introduction to Dynamic Meteorology,* 5th ed. Academic Press, 532 pp. (Required)

Martin, J. E., 2006: *Mid-Latitude Atmospheric Dynamics: A First Course.* Wiley, 324 pp. (Recommended)

Corequisite:

Atm 504 or consent of instructor

Grading:

A–E grading: In-class exams (25% each); Final exam (30%); Homework (20%)

Scope of Course:

This course is a graduate-level introduction to synoptic-dynamic meteorology, and presents equations and concepts that provide the basis for describing and understanding atmospheric motion systems on planetary and synoptic scales. The course is adapted from the first four chapters of Holton (2004): (i) Introduction, (ii) Basic Conservation Laws, (iii) Elementary Applications of the Basic Equations, (iv) Circulation and Vorticity. Additional resources include: (i) *An Introduction to Dynamic Meteorology,* 5th ed., J. R. Holton and G. J. Hakim; (ii) *Mid-Latitude Atmospheric Dynamics: A First Course,* J. E. Martin; (iii) *Synoptic-Dynamic Meteorology in Midlatitudes,* Vol. I, H. B. Bluestein; (iv) *The Ceaseless Wind: An Introduction to the Theory of Atmospheric Motion,* J. A. Dutton; (v) *Dynamical and Physical Meteorology,* G. J. Haltiner and F. L. Martin; (vi) *Introduction to Theoretical Meteorology,* S. L. Hess; (vii) *Principles of Meteorological Analysis,* W. J. Saucier.

The course will be conducted primarily through classroom lectures, supplemented by handouts and homework assignments. There will be two in-class exams during the semester and a comprehensive exam during the final-exam period.