Course:

Atm 320   Atmospheric Thermodynamics   Fall 2017
Class Number: 8432; Credits: 3

Schedule:

TuTh 1:15 p.m.–2:35 p.m., ES 333

Professor:

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

Teaching Assistant:

Kevin Biernat, ES 234, kbiernat@albany.edu
Office hours: MW 11:00 a.m.–1:00 p.m. and by appointment

Text:

Wallace, J. M., and P. V. Hobbs, 2006: *Atmospheric Science:
An Introductory Survey,* 2nd ed. Academic Press, 483 pp. (Required)

Corequisite:

Atm 316

Grading:

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

Scope of Course:

This course is an introduction to atmospheric thermodynamics. The first half covers the thermodynamics of dry air and the second half addresses the extensions necessary to account for the presence of moisture in both unsaturated and saturated forms. Topics include: the equation of state; the first and second laws of thermodynamics; the thermodynamics of water vapor and moist (including saturated) air; phase changes and latent heat; thermodynamic diagrams; and parcel and layer stability concepts pertinent to atmospheric convection. Although the course will focus on the development of principles and concepts from atmospheric thermodynamics, their application to commonly observed meteorological phenomena and processes will be emphasized.

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.