# Atmospheric Sciences 5130
# Physical Meteorology II: Thermodynamics
## Spring 2016

**Instructor:** Steve Krueger
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**Description:** Thermodynamics of dry and moist air, including adiabatic processes, parcel theory, and thermodynamic diagrams.

**Prerequisite:** ATMOS 5000

**Classroom:** WBB 711

**Class Hours:** M W F 10:45 to 11:35

**HELP!** M W 2:00 to 2:45, or by appointment. Email works well.

**Holidays:** Jan. 18, Feb. 15

**Last day of class:** Monday, Feb. 29

**Final exam:** Monday, Feb. 29, 10:45 to 11:35

**Format:** Lecture and weekly assigned problem sets. You will become familar with the skew-$T$ diagram and learn to use it to solve problems in atmospheric thermodynamics. MATLAB programming will also be used for some problems.

**Grading:** The course grade will be determined from problem sets (65%), a final exam (30%), and attendance (5%).

The grading scale will be A: $\geq 90$, B: 80-89, C: 70-79, D: 60-69, F: $< 60$.

**Class policies:** Students must take every exam with exceptions governed by University Policy. Plagiarizing, copying, cheating, or otherwise misrepresenting one's work will not be tolerated.

Missing class will not be penalized directly, but usually results in poor problem set and exam performance. Some course material that you are responsible for will only be presented during lectures (i.e., will not be found in the text or online notes).

Homework is due at the start of class on the due date, unless otherwise noted. *Late homework will not be accepted.*

**Required Textbooks:** (none)

**Optional Textbook:** *A First Course in Atmospheric Thermodynamics* by Grant W. Petty. List price when purchased through bookstores: $48. Discounted price when ordered directly from Sundog Publishing: $36, including free shipping to U.S. addresses. `http://www.sundogpublishing.com/AtmosThermo/Announcement.html`

**Supplementary Material:**

- *Thermodynamics Notes for Meteo 3510,* by S. K. Krueger
- Wallace, J. M., and P. V. Hobbs, 2006: *Atmospheric Science: An Introductory Survey.* 2d ed., Academic Press, 483 pp. Chapter 3.

**Drop and Withdrawal dates:**

- Last day to add or drop (delete) classes: Fri., Jan. 15 (Students can drop classes by phone or web through this date, and the classes will not appear on their transcripts.)
- Last day to withdraw from classes: Fri., Feb. 5. (Students can withdraw from classes by phone or web, but will"W" will appear on their transcript for these courses.)

**Disability Services**

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.