



## Field Experiment Studies Using Environmental Instrumentation ATMOSPHERIC SCIENCES 5910-1– 1st Half Semester. Spring 2010. 1.5 Units

**First Organizational Class Meeting. 703 WBB. Dec. 10. F 11:50-1:45 PM**  
**Final Organizational Class Meeting. 703 WBB. January 14. F 11:50-1:45 PM**



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Class website: <http://www.chpc.utah.edu/~u0035056/5910/>.

### Course Overview

This is a once-in-a-decade course. You have the opportunity to participate in a National Science Foundation field project, the Persistent Cold-Air Pool Study (PCAPS), to take place from December 1 2010-February 7 2011 in the Salt Lake Valley. The goal of the project is to improve understanding of the weather conditions associated with episodes of poor wintertime air quality in the Valley. See <http://pcaps.utah.edu> for more information.

This course is designed to provide students with hands-on field experience operating environmental instrumentation. There are no prerequisites for this course and it is open to all majors. This course is considered a technical elective for atmospheric science undergraduates. Undergraduates enrolled in this course and graduate students enrolled in the companion graduate course ATMOS 6910-5 will collaborate with scientists and volunteers from the University of Utah and elsewhere to launch rawinsondes as well as collect weather observations from mobile and stationary platforms.

### Expected Course Outcomes

After completion of this course, you will have gained the knowledge and experience to be able to do the following:

- State some of the underlying principles associated with a wide array of environmental instrumentation
- Develop proficiency to use environmental instrumentation in the outdoors including following defined safety practices and using electronic equipment individually and as part of teams
- Recognize the steps involved in organizing and conducting a scientific field study

### Course Format and Requirements

The timing of the field project is out of phase with the formal schedule for spring semester. We strongly prefer students to complete the requirements for this course from December through January although it is possible to begin at the start of the Spring semester on January 10. Students will not be involved in the field project on December 24-25.

This course is a half-semester 1.5 unit field laboratory course such that the expected time commitment in the field is a minimum of 5 hours per week of instruction (or a minimum total of 40 hours). As with any course, there is also additional time required for training, reading, and preparation. Team scientists will provide training on instrumentation and safety training is also required. Students will also participate in a minimum of five planning sessions for upcoming field days that are scheduled to be held daily.

Students will submit by March 5 a final report (double-spaced, 12 point font, 1 inch margins) summarizing in detail the weather conditions and operations during one cold-air pool episode in which the student participated. Further information about the requirements for the report will be distributed by January 10.

### Class Policies and Grading

Field safety and security is one of the most critical aspects of this course. Severe violations of security and safety procedures will lead to removal from the course and a failing grade. Grades will be determined from: (1) professional participation in field activities (75%) and (2) final report (25%). Professional participation is defined as: following security and safety procedures, being responsible by fulfilling commitments when you voluntarily sign up to participate in a specific field activity, and participating in the field activity in a productive and competent manner. Plagiarizing, copying, or otherwise misrepresenting ones' work will not be tolerated and will be dealt with as harshly as permitted under University Policy. Do not break the scientific code of honor.

### ADA Accommodations

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