ATMO 325

Understanding and Forecasting the Weather

Tues. 3:30pm-6:15pm FCS 101

Instructor	Professor Benjamin Herman (herman@atmo.arizona.edu)
Office & Phone	PAS 586A, 621-6846
Office Hours	Thu 10:00am-11:00am, or by appointment
Website	www.atmo.arizona.edu/students/courselinks/spring07/atmo325/
Classnotes/Text	Available At Class Website
Assistant Instructor	Michael Leuthold

Teaching Assistants

Jason P. Criscio
criscio@atmo.arizona.edu
PAS 526, 621-6843
M 3:00pm-5:00pm

Bill Scheftic
scheftic@atmo.arizona.edu
PAS 470, 626-8517
W, R 2:00pm-3:00pm

Grading		
	Lab Exercises	50%
	Quizzes	25%
	Final Exam	25%

Lab Exercises Lab exercises will be assigned during class and are to be worked on during the class period. Assignments not completed by the end of the class period require an instructor's/TA's signature and are to be turned in to an instructor/TA by noon the following day. *There are no exceptions to this rule.* The lowest lab grade will be dropped.

Quizzes Several short quizzes will be given throughout the semester. All quizzes will be announced and will be given at the beginning of class.

Final Exam A cumulative final exam will be given on May 8, 2007 2:00pm-4:00pm. Students with a 95.00% average of ALL work and quizzes will be exempt from the final. Exemption status will be determined by the overall grade prior to the lowest lab grade being dropped.

NOTE *You will need to perform simple arithmetic on the quizzes and final exam. Calculators and various other computing devices will NOT be allowed.*

Extra Credit An extra credit writing assignment worth up to 5 percentage points *added directly to your overall average* will be given. The extra credit assignment does not count toward your exemption status. Details will be provided in a separate handout.

Attendance Policy Only one absence will be tolerated. Beyond this, any absence requires *sufficient and acceptable* documentation (e.g., jury summons, doctor's note). Each class constitutes a week of material, so think wisely about missing classes. Any unexcused absence beyond one will result in a zero for that week's lab exercise(s) or an administrative drop at the instructor's discretion. Attendance will be monitored by your completed lab exercises.

Late/Missed Work Policy No late assignments will be accepted except those described above that require an instructor's signature. Make-up labs and quizzes will not be given unless *sufficient and acceptable* documentation is provided.

Class Policy Class will consist of a weather discussion (approx. 20-30 minutes) followed by a lecture (approx. 30-40 minutes). After a short break (approx. 5-10 minutes), students are to work on their lab assignments. Each student is responsible for his/her own individual work.

University Policy All University of Arizona students are subject to the UA codes, policies and procedures. Please refer to `http://dos.web.arizona.edu/uapolicies/` and `http://catalog.arizona.edu/2006-07/policies/aaindex.html` for details.

Tentative Schedule

Week 1 (Jan 16) Introductory remarks, followed by a discussion of weather symbols and station models. The lab period will include a discussion of how to draw lines of constant pressure (isobars) on a surface weather map and a lab exercise in which students will be required to draw these lines. Please complete the online survey at `http://www.atmo.arizona.edu/students/courselinks/spring07/atmo325/survey.html`.

Week 2 (Jan 23) The lecture will describe how winds blow with respect to isobars. Simple explanations of the forces that determine wind direction and speed will be given. The lab will be another exercise in drawing isobars, but with particular attention to making sure the wind data is in agreement with the analyzed isobars.

Week 3 (Jan 30) A discussion of fronts will be presented, along with how to locate them on surface weather charts. Students will be asked to locate fronts on a surface weather chart as the lab exercise.

Week 4 (Feb 6) A discussion on mid-latitude cyclones will be presented. The lab session will be devoted to analyzing a surface map with particular attention to the frontal structure within mid latitude cyclones.

NOTE *Feb 6 is the last day to drop courses resulting in deletion of course enrollment from record*

Week 5 (Feb 13) A discussion of upper air charts will be presented and the lab will consist of the analysis of a 500mb upper air chart.

Week 6 (Feb 20) Basic rules for predicting the motion of surface features such as fronts will be presented. The lab will consist of presenting the 24 hour forecasted positions of surface fronts.

Week 7 (Feb 27) Additional rules will be presented for predicting future positions of surface features. The lab will be a repeat of the week 6 lab.

Week 8 (Mar 6) Additional forecast rules will be presented. Forecast surface and upper air charts for 24 hours will be prepared, and forecasts for selected cities will be made.

NOTE *Mar 6 is the last day to drop a class with a grade of "W" (if passing) or to change to or from audit grading; the instructor's signature on a Change of Schedule form is required.*

Week 9 (Mar 13) *SPRING BREAK. No class.*

Week 10 (Mar 20) Forecasting rules for intensification or weakening of high and low pressure systems will be presented. Forecasts, as in week 8 will be made.

Week 11 (Mar 27) Rules for changes in the upper air (500mb) pattern will be presented. Forecasts will again be made as above.

Week 12-16 (Apr 3 - May 1) Discussions of the weather situation will be presented prior to each forecast, with emphasis on which rules to apply for the current situation. Current weather maps will be analyzed, and forecasts will be made using the various forecasting rules that have been presented.