

AT350: INTRODUCTION TO WEATHER AND CLIMATE

COURSE SYLLABUS

SPRING 2001

1:10 - 2:00 PM TUESDAY/THURSDAY

130 GLOVER

Instructor: Dr. Jeff Collett, Associate Professor, 413 Atmospheric Science Bldg.,
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Teaching Assistants for AT350 and Instructors for AT351: Crystal Pettet and Hui Chang

Objectives: Introduce students to a variety of topics relevant to an understanding of weather, climate and related topics. Familiarize students with information sources regarding these topics. Instill a basic understanding of atmospheric processes and how they determine various atmospheric phenomena.

Text: Meteorology Today: C. Ahrens, West Publishing Co.

Course Website: <http://www.atmos.colostate.edu/at350/index.html>

Course Structure and Grading Criteria: The class is offered for two credits and will meet two times per week for lecture/discussion. Grades will be based on student performance on three hourly exams and a final exam. Exams will be multiple choice and computer graded. Questions will cover material from readings in the text and other assigned materials and from lecture material. Each student may drop their lowest hourly exam score. The remaining two hourly exams will each receive a weight of 30% and the final exam 40%. As a general rule, if a student does not take one of the hourly exams, this becomes the dropped grade. Only under extraordinary circumstances will students be allowed to make up missed examinations.

Seniors graduating May 2001 (ONLY): You are not required to take the final exam if you have taken all three hourly exams and are willing to accept the average of the three as your final grade.

Schedule

Date	Topic(s)	Reading
Jan. 16	Introduction, course mechanics, review of syllabus and course web site	
Jan. 18	Origin and composition of the atmosphere	Chapter 1
Jan. 23, 25	Descriptors of the atmosphere	Chapter 2
Jan. 30, Feb. 1	Solar and terrestrial radiation; the greenhouse effect	Chapter 2
Feb. 6	Seasons; seasonal and daily temperatures	Chapter 3
Feb. 8	Atmospheric optics	Chapter 4
Feb. 13	EXAM 1	
Feb. 15	The atmosphere's water	Chapter 5
Feb. 20, 22	Condensation: Dew, Fog and Clouds	Chapter 6
Feb. 27	Stability and cloud development	Chapter 7
Mar. 1	Precipitation	Chapter 8
Mar. 6, 8	SPRING BREAK	
Mar. 13	Acid deposition	Chapter 17 (pp. 463-466) http://www.epa.gov/airmarkets/acidrain/
Mar. 15	EXAM 2	
Mar. 20	The atmosphere in motion	Chapter 9
Mar. 22	Local winds	Chapter 10
Mar. 27	Global winds; the jet stream	Chapter 11
Mar. 29	Air masses and fronts	Chapter 12
Apr. 3	Middle latitude cyclones	Chapter 13
Apr. 5	Severe weather	Chapter 15
Apr. 10	Colorado Weather (Guest lecturer - Nolan Doesken, Assistant State Climatologist)	
Apr. 12	EXAM 3	
Apr. 17	Air pollution	Chapter 17 (pp. 441-448; 452-463)
Apr. 19	Hurricanes (Guest lecturer - Prof. William Gray)	Chapter 16
Apr. 24	Ozone hole	Chapter 17 (pp. 448-452)
Apr. 26, May 1	Climate Change	Chapter 19
May 3	Review	
May 7	FINAL EXAM	3:40 p.m. - 5:40 p.m.