

AT 350: Introduction to weather and climate
Course syllabus
Fall 2003

1:10-2:00PM Tuesday/Thursday
130 Glover Building

Professor:

Dr. David Thompson, Assistant Professor, Department of Atmospheric Sciences
430 Atmospheric Sciences Bldg., Foothills campus
Phone: 491-3338
Email: davet@atmos.colostate.edu

Teaching assistants (AT350)/instructors (AT351):

Michelle L'Heureux and Matt Rogers

Lab (AT351) (starts 9/8):

L01 Monday 2:10 pm-5:00 pm (B 101 ENGRG).
L02 Monday 4:10 pm-7:00pm (105 EDDY).

TA Office hours:

Held in Engineering Arcade 204A.
Times to be determined.

Final exam time:

Tuesday December 16, 3:40-5:40

Objectives:

- Introduce students to a variety of topics relevant to an understanding of weather and climate.
- Instill a basic understanding of atmospheric processes and how they determine various atmospheric phenomena.
- Provide students with the tools necessary to critically assess media reports regarding weather and climate.

Text:

Meteorology Today, 7th edition. C. Donald Ahrens, West Publishing Co.

Course website:

<http://www.atmos.colostate.edu/at350>
Class notes/homeworks/exams will be posted on the site.

Course structure:

- 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, supplementary reading materials (to be determined), and lecture.
- The lowest hourly exam score will be dropped. As a general rule, if a student misses an hourly exam, this becomes the dropped grade. Makeup exams will be offered only under extraordinary circumstances.

Grading:

Hourly exams: 30% each (total 60%)
Final: 40%

AT350 schedule: Fall 2003 (subject to change)

Aug. 26	Introduction	
Aug. 28	Origin and composition of the atmosphere	Chapter 1
Sept. 2	Temperature, heat transfer	Chapter 2
Sept. 4, 9	Radiation, energy balance, the greenhouse effect	Chapter 2
Sept. 11, 16	Seasons, seasonal and daily temperatures	Chapter 3
Sept. 18	EXAM 1	
Sept. 23	Atmospheric optics	Chapter 4
Sept. 25	Atmospheric moisture	Chapter 5
Sept. 30 Oct. 2	Fog and clouds, water vapor feedback	Chapter 6
Oct. 7	Stability and cloud development	Chapter 7
Oct. 9	Precipitation	Chapter 8
Oct. 14	Acid deposition	Chapter 17 (463-466) www.epa.gov/airmarkets/acidrain
Oct. 16	EXAM 2	
Oct. 21	Winds, forces	Chapter 9
Oct. 23, 28	Winds: small and global scale wind patterns	Chapters 10, 11
Oct. 30 Nov. 4	Air masses, fronts, cyclones	Chapters 12-13
Nov. 6	Severe weather	Chapter 15
Nov. 11	Hurricanes	Chapter 16
Nov. 13	EXAM 3	
Nov. 18	Climate variability: Atmosphere/ocean interaction.	Chapter 18+to be determined.
Nov. 20	Climate variability: El-Nino	To be determined.
Nov. 25, 27	Thanksgiving break	
Dec. 2	Climate change: Mechanisms	Chapter 19
Dec. 4	Climate change: Global warming	Chapter 19+to be determined
Dec. 9	Climate change: Ozone hole	Chapter 17+to be determined
Dec. 11	Review	
Dec. 16	FINAL EXAM: 3:40-5:40 PM	