

## Earth & Planetary Sciences/Geography 251 Spring 2005

### Meteorology

**Instructor:** Prof. David Gutzler  
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**Class Meetings:** Monday-Wednesday-Friday 10:00-10:50am, 2018 Center for the Arts

**Office Hours:** Mon 11am-noon, Tues 9:00am-noon, or by appointment

**Course Objectives:** Basic understanding of weather and atmospheric processes  
Practice problem-solving skills  
Discussion of current weather as it evolves

**Text (required):** Aguado & Burt, *Understanding Weather and Climate* (3rd Ed)

#### Coursework:

- **Readings from the textbook** -- Lectures and readings are complementary.
- **Weather map discussion** -- We will examine current weather maps in class, emphasizing local weather and forecasts, and features on the maps that are related to the course material under discussion each day.
- **Homework** -- assigned every week or two between exams, mixing descriptive and a few quantitative problems.
- **Exams** -- Three midterms and a final exam (see the course outline on the next page for dates).  
Format: closed book; prepare a single 8.5"×11" page of your notes for each exam.  
**\*\* No late homework assignments will be accepted for credit \*\***  
**\*\* No makeup exams \*\***
- **Weather Diagram** -- Each student will prepare a time series chart of surface temperature and air pressure fluctuations for the month of February as noted on the attached Course Outline, and add to it your own weather observations and remarks from the discussion of weather maps in class. We will announce and discuss these observations as part of our map discussion in class. On Wednesday, March 9, you will turn in a neatly drawn, carefully completed chart for final grading and credit as part of the second midterm exam.

**Grading algorithm:**

30%	Homework (lowest score dropped*)
15%	Weather Diagram
30%	Midterm Exams (best 2 of 3 scores*)
25%	Final Exam

*I will drop your lowest homework score and lowest midterm score before calculating the average that is used to derive your grade.*

**If you have any special needs, or if the exam format, dates or other deadlines pose any problems for you, please see the instructor as soon as possible. I will make every effort to work things out with you if (but only if) you give me advance notice.**

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### COURSE OUTLINE

Lecture schedule is approximate; exam and deadline dates are fixed

<u>week #</u>	<u>dates</u>	<u>topic</u>	<u>chapter from text</u>
1	1/19-21	Introduction to meteorology	Appendix C, 1
2	1/24	Introduction to atmospheric radiation <i>no class on Wed 1/26 or Fri 1/28</i>	2
3	1/31, 2/02-04 <b>2/01 (Tue)</b>	Solar radiation and energy <b>Begin recording data for weather diagram</b>	2,3
4	2/07-09-11	Greenhouse effect, air temperature and air pressure	3,4
5	2/14-16-18 <b>2/16 (Wed)</b>	Review/Midterm/Introduction to winds <b>Midterm #1 (covering material through chapter 3)</b>	4
6	2/21-23-25 <b>2/25 (Fri)</b>	Winds and moisture <b>Deadline to drop the course without a grade</b>	4,5
7	2/28, 3/02-04 <b>2/28 (Mon)</b>	Atmospheric moisture and clouds <b>End recording data for weather diagram</b>	5,6
8	3/07-09 <b>3/09 (Wed)</b>	Review/Midterm <b>Midterm #2 (covering material in chapters 4-6)</b> <b>Completed weather diagram turned in with midterm</b> <i>no class on Fri 3/11</i>	
	<b>3/14-18</b>	<b>SPRING BREAK</b>	
9	3/21-23-25	Precipitation	7
10	3/28-30, 4/01	Circulation systems	8
11	4/04-06-08	Fronts and cyclones	9,10
12	4/11-13-15 <b>4/13 (Wed)</b>	Review/Midterm/begin Ch. 11 <b>Midterm #3 (covering material in chapters 7-10)</b>	11
13	4/18-20-22	Severe storms	11
14	4/25-27-29	Hurricanes	12
15	5/02-04-06 <b>5/09 (Mon)</b>	Weather analysis and forecasting <b>FINAL EXAM 10:00am-noon</b>	13