

## SYLLABUS

**ATMO 220 Unusual Weather Fall 2007**

**8:00 - 9:15 AM Tuesday & Thursday 317 Lindley Hall**

**Instructor – Prof. David Braaten**

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**Office Hours: 1:30 - 3:00 pm Tuesday; 9:30 – 11:00 am Wednesday**

**Final Exam: 7:30 – 10:00 AM Wednesday, December 12, 2007, in 317 Lindley Hall**

<u>Date</u>	<u>#</u>	<u>Lecture Topics</u>	<u>Reading Assignment</u>
		<i>The Basics</i>	
Aug 16	1	Course Details and Overview	
Aug 21	2	The Earth's Atmosphere and Structure	1-13
Aug 23	3	Weather and Climate; Temperature & Heat Transfer	13-22; 25-34; 69
Aug 28	4	Earth's Energy Balance	35-43
Aug 30	5	The Seasons; Air Temperature	43-51; 55-63; 72-75
Sept 4	6	Hydrologic Cycle; Humidity & Condensation	79-93
Sept 6	7	Clouds and Stability	97-108; 111-120
<b>Sept 11</b>		<b>First Lecture Exam</b>	
Sept 13	8	Precipitation	121-129
Sept 18	9	Air Pressure & Winds; Atmospheric Circulation Basics	141-165
Sept 20	10	Fronts & Storms; Weather Radar & Satellites	203-225; 135-137; 240-243
		<i>Weather can be hazardous to your health...</i>	
Sept 25	11	Thunderstorms	263-271; 276-277
Sept 27	12	Lightning and Thunder	277-283
Oct 2	13	Hail	132-134
<b>Oct 4</b>		<b>Second Lecture Exam</b>	
Oct 9	14	Flooding	274-276
<b>Oct 11</b>		<b>Fall Break</b>	
Oct 16	15	Mesoscale Convective Complexes; Tornadoes	269-270; 283-288
Oct 18	16	Tornado Development	288-294
Oct 23	17	Downburst; Derecho; Waterspouts; Dust Devils	182-183; 270-274; 294-295
Oct 25	18	Tropical Storms and Hurricanes	299-310
Oct 30	19	Storm Surge; Hurricane Activity	310-324
<b>Nov 1</b>		<b>Third Lecture Exam</b>	
Nov 6	20	Snow, Blizzards, Nor'easters, Ice Storms	128-132; 225-226
Nov 8	21	Heat Waves and Drought	19; 88-89
		<i>Our impact on, and relationship with the atmosphere</i>	
Nov 13	22	Stratospheric Ozone and the "Ozone Hole"	334-337
Nov 15	23	Pollutants and Acid Rain	347-349
Nov 20	24	Aviation Weather Hazards	93-97; 133; 172-173; 272-273
<b>Nov 21-25</b>		<b>Thanksgiving Break</b>	
Nov 27	25	El Niño, La Niña, and the Southern Oscillation	194-198
Nov 29	26	Climate Change and Greenhouse Gases	383-402
Dec 4	27	Global Warming and its Consequences	402-411
Dec 6	28	Atmospheric Optics	415-433
<b>Dec 12</b>		<b>Final Exam; 7:30 – 10:00 AM; 317 Lindley Hall</b>	

**Grades:** Your final course grade will be based on 3 lecture exams (each worth 18% of your grade) for a total of **54%** of your grade, in-class “open book” quizzes (**18% of your grade**), and the final exam (**28%**).

**Lecture Exams:** These exams will consist of about 50 multiple-choice questions covering material from the lecture and the reading assignments. You will have the entire class period to complete the exam.

**Open Book Quizzes:** These are short answer quizzes based on your reading assignments and lecture notes, and are given randomly throughout the semester. You will have a maximum of 15 to 20 minutes to answer the questions. You must be in class when the quiz is given in order to take the quiz – no makeup quizzes will be given. The quizzes will be used to assess your attendance in the lecture, and lecture attendance will be considered in determining the final grade.

**Final Exam:** The final exam will consist of 75 - 80 multiple-choice questions on topics covered since the third lecture exam, and specified topics from lecture exams. The final exam will be given on **Wednesday, December 12, 2007 at 7:30 AM**. If you know you will not be able to take the final exam at this time, you should drop this course.

**MAKEUP EXAMS WILL NOT BE GIVEN.** If you miss an exam because of illness or other extreme circumstance, you must present written proof to the instructor to be considered for possible accommodation. The Geography Department will verify all written documentation. This accommodation will be at the discretion of the instructor and may include an essay or oral examination.

**Textbook:** *Essentials of Meteorology, An Invitation to the Atmosphere, 5<sup>th</sup> Edition*  
C. Donald Ahrens, Thomson, Brooks/Cole Publishing, 2008.

**Lecture Notes:** Lecture notes will be available on **Blackboard (<http://courseware.ku.edu>)** under *course documents*. You will need a KU online ID to access these.

**Students with Disabilities:** The staff of Services for Students with Disabilities (SSD), 135 Strong, 785-864-2620 (v/tty), coordinates accommodations and services for KU courses. If you have a disability for which you may request accommodation in KU classes and have not contacted them, please do as soon as possible. Please also see me privately in regard to this course.

**Cheating:** Cheating in any manner will not be tolerated. Any student discovered cheating will be given an F for the course and a letter will be sent to the Dean of the student's school explaining that the failing grade was the result of academic misconduct. Examples of academic misconduct include, but are not limited to: exam or quiz fraud; unauthorized use of "crib" notes on an examination; false claim for excuse from a scheduled exam.

**Conduct During Lectures:** In order to have a proper learning environment in this full classroom, I require that there be absolutely no talking with other students, eating, or reading the newspaper during the lecture. Cell phones must be turned off when entering this classroom.