ATMS 120 (ESE 120): Spring 2015 *Severe and Hazardous Weather*

**Course Objectives:** This course focuses on the most extreme manifestations of weather and climate by analyzing the physical, economic, historical and human impact of extreme weather events. Students will learn introductory level atmospheric processes that control the weather, and how these processes interact within the context of severe weather events (i.e., hurricanes, ice storms, floods, tornadoes, etc.)

**Prerequisites:** none. **Credits:** 3 hours

**Satisfies:** This course is approved for General Education Credit in the category of Natural Sciences and Technology: Physical Science and Quantitative Reasoning II.

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<th>Section A (HA)</th>
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<tr>
<td><strong>Time</strong></td>
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<tr>
<td><strong>Location</strong></td>
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<tr>
<td><strong>Instructor</strong></td>
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<td><strong>Contact Information</strong></td>
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<td><strong>Office Hours</strong></td>
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**Textbooks:** *(Required)* *Severe and Hazardous Weather, 4th Edition*, By Robert Rauber, John Walsh and Donna Charlevoix, Kendal Hunt 2012 **ISBN:** 978-0-7575-9772-5 *(You do not need the workbook!)*

**Webpage:** We are using Illinois Compass 2G as our course software. *You will need to access it on a regular basis* for homework, announcements, and discussion boards: https://compass2g.illinois.edu

**COURSEWORK**

i-clicker exercises (ICEs) Each class I will embed several i-clicker questions that will work with my lecture to ensure you are following the material. To earn credit for these questions you simply need to answer the questions, not get them correct and you must answer both the first and last i-clicker questions for each class. Please register your i-clicker ASAP *(25% of your final grade)*

Online Homework will consist of assigned problems to be completed and submitted online. There will be five online homework assignments. **There will be a strict due date and time by which you must submit your answers online.** Computer glitches, compass problems etc. **will not** serve as excuses. These assignments **will not** be accepted late so start them early! *(20% of your final grade)*

A Weekly Challenge Problem will be assigned each week and will be due in 7 days. These problems are to be solved on paper and electronically submitted via compass. They are designed to be challenging and will required strong skills in algebra, trigonometry and basic calculus. We will have 10 WCPs this semester *(25% of your final grade)*

Extra-Credit Reading Assignments will be assigned twice per week and will consist of 5 questions directly from the reading. All of the reading assignments will be given in the instructions of these extra-credit reading assignments. Any points that you earn through these assignments will be summed up throughout the semester. If you earn all points you will get 5% extra-credit added to your final course grade, if you get 90% of the points, 4.5% will be added to your score and so on. These reading assignments will be due at 2PM on Tuesday and Thursday of each week.
Exams: There will be three exams during the semester. The first two exams will take place at the normal class meeting time. The third exam will be during finals week at the scheduled final examination time (see below). Exams are not cumulative and each is worth 10% of your final grade. You must take exams at the scheduled time with your section – no exceptions.

GRADING (This is a very fair & generous curve that will not change depending on class performance.)

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<tr>
<th>Component</th>
<th>Percentage of Grade</th>
<th>Grade Range</th>
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<tbody>
<tr>
<td>i-c CLICKER</td>
<td>25%</td>
<td>A+ 98 – 100%</td>
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<tr>
<td>Online Homework</td>
<td>20%</td>
<td>A 94 – 97.99</td>
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<tr>
<td>Exam #1:</td>
<td>10%</td>
<td>B+ 88 – 90.99</td>
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<td>Exam #2:</td>
<td>10%</td>
<td>B 84 – 87.99</td>
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<tr>
<td>Exam #3 (Final):</td>
<td>10%</td>
<td>B- 81 – 83.99</td>
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<tr>
<td>EXTRA-CREDIT - reading</td>
<td>up to 5%</td>
<td>F &lt; 60.99</td>
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COURSE POLICIES

Extra assistance: The preferred method for obtaining extra assistance is to attend office hours. If you cannot attend office hours, send an e-mail or phone message to set up an appointment. Another great way to get answers to your questions is with the web page discussion board. Fellow students, the TAs, and the instructor will check these daily and you usually will have an answer in a few hours.

Email: When you send the instructor an email, please use the following subject line:

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ATMS 120 Sec. X: Subject
Where “X” is your section (A or HA) and “Subject” is your personalized subject line.
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Class courtesy: You are in a large lecture class and are expected to be respectful of fellow students, and the instructor. Failure to do so will result in dismissal from class. Examples:

1) turning off cell phones, pagers, other sound-making devices before class,
2) sitting toward the back of the room if you must leave early or arrive late (and notifying the instructor in advance if you must leave early),
3) not distracting your classmates by talking or making other noises.

If you are not sure of whether a particular behavior is appropriate, see your instructor.

Academic Honesty: You are expected to complete your work independently, in accordance with University policy. Failure to do so will result in strict disciplinary action, including loss of all credit for the assignment, notification of a dean, and possible dismissal from the University. You may work with others on homework, but the final product must be your own.

Special Needs: To insure that disability-related concerns are properly addressed from the beginning, students with disabilities who require reasonable accommodations to participate in this class are asked to see the instructor as soon as possible in accordance with university policy.

IMPORTANT DATES
(http://www.las.uiuc.edu/students/dates/)

Last day to drop Friday, March 13 (must be initiated by the student)

1 http://www.uiuc.edu/admin_manual/code/rule_33.html
2 http://www.uiuc.edu/admin_manual/code/rule_4.html
**Section 1 Topics:**
Temperature and Seasons, Atmospheric Pressure, Water in the Atmosphere, Weather Instruments, Doppler Radar, Weather Satellite, Extra-tropical Cyclones, Ice Storms, and Blizzards

**Section 2 Topics:**
Atmospheric Optics (Rainbows etc.), Tropical Cyclones, El Niño/La Niña, Drought, Heat Waves, Floods, Global Climate Change

**Section 3 Topics:**
Lightning, Thunderstorm, Atmospheric Stability, Severe Thunderstorms, Squall Lines, Supercells, Tornadoes