ESC 127 –Introduction to Meteorology with Lab
SECTION 650
Honors
Spring 2014

Instructor: Eric Priest

Voicemail: 847-543-6539

Email: epriest@clcillinois.edu (preferred)


Class meetings: 2:30PM -4:50PM on Mondays and Wednesdays, Room A225.

Office hours: Monday and Wednesdays, 8:00-10:00AM in T240 or D215. Tuesday and Thursdays, 7:00-8:00AM in T240 or D215. Online via email Fridays 9:00AM – 1:00PM

Note: I may be out of the office at times during office hours due to college business. It is best to contact me via email to make an appointment in advance.

Blackboard will be used to post various course materials. Blackboard’s URL is:  [http://clc.blackboard.com/](http://clc.blackboard.com/)  For assistance with blackboard, call the help desk at 847-543-4357.

Important dates: Last date to withdraw with refund and no grade:  02/06/14

Last date to withdraw with W grade:  04/08/14
If you plan to discontinue attending the class anytime during the semester, it is strongly recommended that you take responsibility for dropping the class. Grades of W will only be assigned to students who drop themselves. Instructors are required to report noticeable non-attendance of students. If you discontinue attending class and are dropped by the institution, one of the following grades will be assigned:

WN – Withdrawal, student never attended – no impact on G.P.A.

WS – Withdrawal of students who stop attending – no impact on G.P.A.

WF – Withdrawal of student who stops attending after the official withdrawal deadline and instructor deems failing - impact on G.P.A. is equivalent to a grade of F.

**CLC Email address**: It is important that you set up your CLC email account immediately, if you have not yet done so. I can only communicate officially with you through CLC email. The link to set up the account is here:  [http://www.clcillinois.edu/newlogin/index.asp?from=an](http://www.clcillinois.edu/newlogin/index.asp?from=an)

Any problems, please contact the help desk at: (847) 543-4357.

**Course Description**

This 4 credit hour course in physical science is geared toward the non-science major or those who wish to gain a comprehensive overview of the science of meteorology with a laboratory component. The primary goal of this course is to help students become better educated consumers of the massive amount of weather information now available to them. Topics will include high and low pressure systems, fronts, clouds, the jet stream, winter precipitation, thunderstorms and severe weather, hurricanes, air-ocean interactions (El Nino and La Nina), weather analysis and an introduction to weather forecasting. The student should be comfortable with interpreting maps, charts, and diagrams.
Learning Objectives
After this course, students should be able to perform the following tasks to explain various features of the atmosphere and the processes that affect the weather.

A. Demonstrate a familiarity with the basic vocabulary of meteorology.
B. Apply the concepts of meteorological analysis to real time and climatological data.
C. Demonstrate an ability to examine meteorological information through critical reading and discussion.
D. Recognize the magnitude of the atmospheric forces that transform the Earth’s landscape.
E. Recognize the influence of both historical and present discoveries in meteorology on our daily lives.
F. Assess the significance of major meteorological events and their effect on human lives.
G. Perform basic mathematical computations associated with meteorological variables.
H. Interpret weather information displayed on maps and graphs.
I. Evaluate existing weather conditions for the purpose of recognizing certain meteorological trends and patterns.
J. Apply the basic principles and concepts of meteorology to laboratory and field exercises.
K. Demonstrate skill in field observations and the recording of data.
L. Apply the meteorological tools of lab and field experiments, weather maps, graphs, tables, and models to the examination and analysis of the atmosphere.

Instructional Methodologies
The instructional format for this class will include formal lectures, group discussions, cooperative learning group exercises (CLGs), and occasional demonstrations. Laboratory sessions are more informal with direct interaction between students and between student and instructor. A semi-discovery approach is used in laboratory assignments.
**Expectations:**
You should obtain a good learning experience from this course if you can meet the following expectations: 1) attend all classroom meetings each week; 2) read assigned chapters before each class meeting and come to class with questions over any material that you do not understand; 3) spend 8 hours of study outside the classroom each week.

**Evaluation Techniques:**

1) **Exams:** There will be 4 exams throughout the semester.

2) **Laboratory Work:** Lab work will include lab exercises. Diligent participation as well as content are considered in evaluating lab exercises. Questions from the labs will be included in the exams.

3) **CLGs, Quizzes, and Homework:** There will be cooperative learning group exercises (CLGs), occasional homework exercises, and unannounced quizzes. Quizzes may be given at any time during class and may cover material presented in the previous lecture or assigned reading from the text.

4) **Weather Forecasting Contest:** Contest will begin the 5th week of the semester and will be graded based on the degree of participation. Extra credit will be awarded to those students who demonstrate a certain level of forecasting skill. Details will be posted on Blackboard.

5) **Presentations:** Students may choose one of the following:

   **A.** Using their newly acquired knowledge of meteorology, students will use weather maps to give a presentation of near real-time weather to the class. Presentations are expected to be roughly 5-8 minutes in length and students should be prepared to answer questions at the end. Details will be posted on Blackboard.

   **B.** Research a significant weather event (approved by me) and present your findings to the class. These presentations will not only include the meteorology pertinent to the weather event but also an investigation into the human/economic consequences and a historical perspective of the event.
6) **Extra credit:** Extra credit problems will be assigned on a regular basis and posted on blackboard. These problems will be given a due date—no late submissions will be accepted. All extra credit assignments will together total a maximum of 7%. In other words, a maximum of 7% extra credit will be added to a student’s grade at the end of the semester.

7) **Primary Grading Basis:**

- Group 1: Lecture Exams: 45%
- *Group 2: Lab exercises: 20%*
- *Group 3: CLGs, Homework, and Quizzes 10%*
- Group 4: Weather Presentations 15%
- Group 5: Forecasting Contest 10%

- Note: The instructor will drop the lowest grade from Groups 2 and 3.

8) **Grading Scale:** The components of the primary grading basis will be totaled to determine your cumulative grade. The grade awarded will be determined on the following scale:

- A: 90% - 100%
- B: 80% - 89%
- C: 70% - 79%
- D: 60% - 69%
- F: Below 60%

Note: If you are transferring credit, it is your responsibility to earn the grade that you need to transfer—there won’t be any extra credit at the end to improve a student’s grade.

**Important dates:**

- Feb. 12\textsuperscript{th} - Feb. 17\textsuperscript{th}: Exam 1 ONLINE
- March 17\textsuperscript{th}: Exam 2
- April 14\textsuperscript{th}: Exam 3
- May 12th: Exam 4
**Academic Honesty Policy**
The very nature of higher education requires that students adhere to accepted standards of academic integrity. Therefore, the College of Lake County has adopted the Student Rights and Responsibilities Policy (#403) and a Statement of Student Academic Integrity. These may be found in the Student Handbook. Among the violations of academic integrity listed and defined are: cheating, plagiarism, falsification and fabrication, unauthorized complicity, abuse of academic materials, complicity in academic dishonesty, falsification of records and official documents, personal misrepresentation and proxy, and bribes, favors, and threats. It is the student’s responsibility to be aware of behaviors that constitute academic dishonesty. Pursuant to the due process guarantees contained in the Student Rights and Responsibilities Policy and Procedures on Student Academic Integrity, the minimum punishment for the first offense for a student found in violation of the standards of academic integrity is failure in the assignment. In addition, a disciplinary record will be established and kept on file in the office of the Vice President for Student Development.

**Discussion Forum:**
There will be an open forum on Blackboard for the Honors students to discuss anything about the course, current weather, etc…I will monitor the discussion from time to time, but email is always best if you have a question specifically for me.

**Additional Requirements:**
Class attendance is required. You must be on time and in attendance during the entire class to be marked present. **Missed Labs, CLGs, homework, and quizzes cannot be made up.** Homework assignments will also be posted on blackboard- **any homework turned in after the due date will not be accepted.** Exams associated with excused absences can be made up in a reasonable amount of time through arrangements with me and the Testing Center.

During most class periods, there will be a discussion of interesting weather pertinent to that particular day. Current weather maps will be presented with real-time applicability to material taught in the lectures/text. Students are highly encouraged to participate in these discussions.

Attendance and classroom participation will be factored in to a student’s grade at the end of the semester.
Office for Students with Disabilities
If you are a student with a documented disability and may need academic accommodations such as extended time for exams and/or an in-class note taker, please present documentation to the Office for Students with Disabilities in L112 at the Grayslake campus. To schedule an appointment, please call: voice (847) 543-2474 or TTY 223-0134.
If you have already contacted the Office for Students with Disabilities and have completed the Instructor Notification Form, please schedule a time to meet with me and discuss your needs.

Conduct
In order to promote a positive learning environment, distractions will be kept to a minimum. Please keep cell phones off or on vibrate and leave the classroom to take calls. During lecture, please refrain from personal conversations and texting as they distract the instructor as well as other students. During lecture, laptops may be used for activity relating to this class only (note taking, etc...)

Cancelling Class
If it is necessary for me to cancel class in an emergency, I will put an announcement on Blackboard as well as send you an email to your CLC account.

Exam requirements: Once you begin the exam you will not be permitted to leave the room until you have finished the exam. Cell phones are to be turned off during exams.
Counseling Services
The College of Lake County Counseling Office offers professional counseling for students who are in crisis or are having personal problems that could affect their academic and career goals. The services of professional counselors are available at three locations on an appointment or drop-in basis: Grayslake Campus, C110, (847) 543-2060.

Emergency Procedures: The College of Lake County works to ensure that the students, staff, and faculty are provided a safe environment for learning. To ensure this, emergency procedures have been developed. Emergency instructions are posted in each classroom. Please acquaint yourself with them. In the event of an emergency, please stay with the instructor or your fellow classmates. For the events listed below, the following procedures will be used:

Fire Alarm or Fire Event: Upon activation of the fire alarm, exit the room and remain together once outside the building. Remain outside, at least 100 feet from the building, until officially advised to re-enter.

Tornado: The College of Lake County designates safe zones in the event of a tornado. You will either be asked to remain in place or move to the designated safety zone.

Life Threatening Emergency: Based on the most current information, the college will advise all campus stakeholders of the identified threat. Options to address the threat may include exiting the building or sheltering in place. Please follow the instructions provided and move quickly. Should the decision be made to shelter in the classroom, members of the classroom will immediately secure the classroom door and move to an area not visible from the windows or door. Please silence all cell phones, and remain quiet.

Earthquake: Should an earthquake occur, the procedure will be to shelter in the room seeking cover under tables or desks until the tremors stop. You will then exit the building and remain at least 100 feet from the building.
## Class Schedule

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<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION</th>
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| 1/29       | Finish Chapter 1  
Chapter 2 “Radiation and heating of the atmosphere” |
| 2/03, 2/05 | Chapter 2 continued  
Chapter 3 “Temperature” |
| 2/10, 2/12 | Chapter 4 “The Role of Water in Weather”  
Chapter 5 “Satellite and Radar Imagery” |

**Exam 1 Chapters 1-4, Chapter 5 (pages 169-183) taken online between 2/12 and 2/17.**

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| 2/17, 2/19 | *Weather forecasting contest begins 2/17  
Chapter 5 continued  
Chapter 6 “Surface Patterns of Pressure and Wind” |
| 2/24, 2/26 | Chapter 6 continued  
Chapter 7 “Upper-Air Patterns of Pressure and Wind” |
| 3/03, 3/05 | Chapter 8 “The Role of Stability in Weather” |
| 3/10, 3/12 | Chapter 8 continued  
Chapter 12 “Linking Surface and Upper-Air Patterns” |
| 3/17       | **Exam 2 Chapters 5 (pages 184-196), 6, 7, 8** |
| 3/19       | Chapter 12 continued |

**March 24th – March 30th**  
**NO CLASS, SPRING BREAK**
<table>
<thead>
<tr>
<th>Date</th>
<th>Chapter(s)</th>
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<tbody>
<tr>
<td>3/31, 4/02</td>
<td>Chapter 13 “The Cyclone Model”</td>
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<td>Chapter 10 “Tropical Weather”</td>
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<td><em>Weather Presentations begin April 7th</em></td>
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<td>4/07, 4/09</td>
<td>Chapter 16 “Winter Weather”</td>
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<td>4/14</td>
<td><strong>Exam 3 Chapters 10, 12, 13, 16</strong></td>
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<td>4/16</td>
<td>Chapter 9 “Thunderstorms”</td>
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<td>4/21, 4/23</td>
<td>Chapter 9 continued</td>
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<td>Chapter 14 “Spawning Severe Weather”</td>
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<td>4/28, 4/30</td>
<td>Chapter 14 continued</td>
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<td>Chapter 15 “A Closer Look at Tornadoes”</td>
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<tr>
<td>5/05, 5/07</td>
<td>Chapter 15 continued</td>
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<td></td>
<td>Chapter 11 “Hurricanes”</td>
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<tr>
<td>5/12</td>
<td><strong>Exam 4 Chapters 9, 11, 14, 15</strong></td>
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ESC 127  
Section 650 Honors  
Lab Schedule

1/29   Lab 1: Weather Analysis

2/03   Lab 2: Earth-Sun relationships and radiation

2/10   Lab 3: Temperature

2/17   Lab 4: Moisture and Satellite imagery

2/19   Lab 5: Satellite and Radar imagery, Surface pressure

2/26   Lab 6: Surface pressure and Upper air

3/05   Lab 7: Upper air

3/12   Lab 8: Atmospheric stability

3/19   Lab 9: Linking surface and upper air systems

4/02   Lab 10: The Cyclone Model

4/09   Lab 11: Winter Weather
4/16 Lab 12: Thunderstorms

4/23 Lab 13: Instrument measurements lab

4/30 Lab 14: Severe thunderstorms and tornadoes

5/07 Lab 15: Tropical Weather

The instructor reserves the right to modify this syllabus, but will inform the class of any modifications.