INTRODUCTION TO METEOROLOGY
EAS 120-    Section: 001
Credit Hours: 4.00  Lab Hours: 3.00  Lecture Hours: 3.00
IAI Core: P1 905L  IAI Majors:
Semester: Fall  Course Begins: 8/19/2014  Course Ends: 12/12/2014
Days: TTH  Times: 11:30AM-2:20PM  Room: A223
Instructor: Paul Hamill
E-mail: phamill@mchenry.edu
Phone: 815-455-8698
Office Hours: http://www.mchenry.edu/faculty/phamill/EAS120/courseschedule.pdf
Office Location: B252
Website: http://www.mchenry.edu/faculty/phamill/EAS120/eas120.html
Required Course:
Supplies: Various models, charts, and instruments are used for demonstrations and laboratory exercises. PowerPoint slideshows are used in lecture.

Course Description:
Introduction to Meteorology looks at the processes that produce weather. It covers the basic elements of meteorology—temperature, pressure, moisture and wind—and analyzes severe storms such as tornadoes and hurricanes. Lab work focuses on basic weather forecasting and weather conditions that affect our daily lives.

Course Note: Credit cannot be earned for both EAS 120 and EAS 171. This course requires intermediate reading, intermediate writing and intermediate math.

Course Prerequisite: Credit or concurrent enrollment in MAT 075 or MAT 095.

Course Objectives:
Cognitive:
1. Demonstrate a familiarity with the basic vocabulary of meteorology.
2. Apply the basic principles and concepts of meteorology to laboratory and field exercises.
3. Apply the concepts of meteorological analysis to atmospheric phenomena classification, weather map interpretation and prediction, and climatological analysis.
4. Demonstrate an ability to examine meteorological information through critical reading and discussion.
5. Employ the scientific method of inquiry to investigations in the laboratory and the field.
Affective:
1. Appreciate the meteorological processes and the magnitude of the atmospheric forces that transform the Earth’s landscape.
2. Accept responsibility for pursuing an increased awareness of the uniqueness of the Earth and its importance as a biosphere.
3. Recognize the influence of both historical and present discoveries in meteorology on our daily lives.
4. Understand the importance of meteorological events and their significance in affecting human lives.
Manipulative:
1. Demonstrate skill in field observations and the recording of data.
2. Apply the meteorological tools of lab and field instruments, weather maps, graphs, tables,
3. Evaluate existing weather conditions for the interpretation of recognizable trends and patterns.
Course Outline:

I. Composition, Structure, and Temperature of the Atmosphere
II. Moisture in the Atmosphere
   A. Atmospheric Condensation
   B. Cloud Development and Atmospheric Stability
   C. Precipitation Processes
III. Movement of Air
   A. Pressure and Wind
   B. General Atmospheric Circulation
   C. Air Masses and Fronts
IV. Atmospheric Disturbances
   A. Mid-Latitude Cyclones
   B. Thunderstorms and Tornadoes
   C. Tropical Storms and Hurricanes
V. Human Activities
   A. Weather Forecasting and Analysis
   B. Human Effects on Weather

The instructional format for the lecture section of the course will include formal lectures, group discussion, review sessions, cooperative learning groups, 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.

Laboratory Outline:
Lab 1: The Atmosphere
Lab 2: Solar Radiation and Seasons
Lab 3: Temperature Trends and Statistics
Lab 4: Atmospheric Pressure
Lab 5: Atmospheric Moisture
Lab 6: Surface Weather Map Analysis
Lab 7: Atmospheric Stability and Clouds
Lab 8: Air Masses and Frontal Zones
Lab 9: Introduction to Weather Forecasting and 15-Day Forecasting Contest
Lab 10: General Atmospheric Circulations
Lab 11: The Mid-Latitude Cyclone
Lab 12: Severe Storms
Lab 13: Tropical Disturbances
Lab 14: Weather Forecasting 2 and Daily Forecasting Contest and models to the examination and analysis of the atmosphere.
Assignments and Grading Criteria

A) **Exams and Tests:** 4 Exams, a midterm exam, and a final comprehensive exam are given.

B) **Laboratory Exercises:** Lab grades are based upon diligent completion of all lab questions.

C) **Primary Grading Basis:**

*Lab Work* 20%
*Lecture Exams* 30%
*CLG’s* 10%
Midterm Exam 20%
Final Exam 20%

* The instructor will drop the lowest lab, lecture exam, and CLG from the total point accumulation, therefore any lab, lecture exam, or CLG missed due to an absence from the class will be used as your dropped score. Any lecture exam, CLG or laboratory exercises missed due to an unexcused class absence cannot be made up. You may obtain a missed CLG or lab for learning purposes, but the score will not count.

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

- A – 90%
- B – 80%
- C – 70%
- D – 60%
- F – below 60%

Policies

**Attendance policy:** Laboratory attendance is required. If a student has two unexcused absences from lab, their grade for the entire course will be lowered one full letter grade. You must be on time and in attendance during the entire lab to be marked present.

**Late work/make-up policy:** Deadlines for all course material is due by the dates specified by the instructor. Materials turned in late will have grades lowered accordingly.
### Weekly Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>8/19/14</td>
<td>Introduction to Course.</td>
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<tr>
<td></td>
<td>Go Over Syllabus.</td>
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<tr>
<td></td>
<td>Chapter 1 “Composition and Structure of the Atmosphere”</td>
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<tr>
<td>8/26/14</td>
<td>Chapter 2 “Solar Radiation and the Seasons”</td>
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<tr>
<td>9/02/14</td>
<td>Chapter 3 “Energy Balance and Temperature”</td>
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<tr>
<td>9/09/14</td>
<td>Chapter 4 “Atmospheric Pressure and Wind”</td>
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<tr>
<td>9/16/14</td>
<td><strong>Exam 1 (Chapters 1-4)</strong></td>
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<td>Chapter 5 “Atmospheric Moisture”</td>
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<td>9/23/14</td>
<td>Chapter 5 Continued</td>
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<td></td>
<td>Chapter 6 “Cloud Development and Forms”</td>
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<tr>
<td>9/30/14</td>
<td>Chapter 6 Continued</td>
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<td></td>
<td>Chapter 7 “Precipitation Processes”</td>
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<tr>
<td>10/07/14</td>
<td>Chapter 7 Continued</td>
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<td>Chapter 8 “Atmospheric Circulation and Pressure Distributions”</td>
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<tr>
<td>10/14/14</td>
<td><strong>No Classes. Professional Development Day. College Closed.</strong></td>
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<tr>
<td>10/21/14</td>
<td><strong>Exam 2 (Chapters 5-7)</strong></td>
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<td>Chapter 8 Continued</td>
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<tr>
<td>10/28/14</td>
<td><strong>Midterm Exam (Chapters 1-7)</strong></td>
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<td>Chapter 9 “Air Masses and Fronts”</td>
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<td>11/04/14</td>
<td>Chapter 9 Continued</td>
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<td>Chapter 10 “Mid-latitude Cyclones”</td>
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<tr>
<td>11/11/14</td>
<td><strong>Exam 3 (Chapters 8-9)</strong></td>
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<td></td>
<td>Chapter 10 Continued</td>
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<tr>
<td>11/18/14</td>
<td>Chapter 11 “Lightning, Thunder, and Tornadoes”</td>
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<td>11/25/14</td>
<td>Chapter 12 “Tropical Storms and Hurricanes”</td>
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<tr>
<td>12/02/14</td>
<td><strong>Exam 4 (Chapters 10-12)</strong></td>
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<td></td>
<td>Review for Final Exam</td>
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<tr>
<td>12/09/14</td>
<td><strong>Final Exam (12:30PM – 2:30PM)</strong></td>
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<tr>
<td></td>
<td><strong>Final Exam (Chapters 1-12)</strong></td>
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</tbody>
</table>

**Withdrawals:** The last day to drop this course is **11/13/14**. Failure to attend class does not constitute official withdrawal. If students are considering a withdrawal, they should consult directly with the instructor and an academic advisor. Students may withdraw from a class through the Registration Office, either in person or by fax: (815) 455-3766. In their request, students should include their name, student ID number, course prefix, number and section, course title, instructor, reason for withdrawing, and their signature. Withdrawal from a course will not be accepted over the telephone.

Please refer to the following link for other important college dates: www.mchenry.edu/academiccalendar.asp

**General Education Goals:**
1. Critical Thinking: To identify, define, analyze, synthesize, interpret, and evaluate ideas.
2. Information Literacy: To locate, evaluate, and use resources effectively.
3. Effective Communication: To develop, articulate, and convey meaning.
4. Ethical Awareness: To identify and make responsible choices in a diverse world.
5. Technological Literacy: To use tools skillfully.
Assessment:
Some student work may be collected for the purpose of assessment, including student competency in the general education goals, the program, or the course.

Effective Fall 2014: Student E-Portfolio:
The instructor of the course will designate at least one graded assignment for possible inclusion in the student E-portfolio. Students applying for an AA, AS, AFA, AES, or AGE degree must document their learning outcomes with a graded assignment for each of the five general education goals by the time of graduation. These five assignments and a cover letter will be in the student E-portfolio in Canvas.

Special Needs Statement
McHenry County College offers support services for students with special needs. It is your responsibility to meet with the Special Needs Coordinator and provide current documentation regarding a disability. Please call or stop by the Special Needs Department, (815) 455-8676, Room A260, as soon as possible if you would like more information about the accommodations that are available. In addition, it is important for you to discuss those accommodations with your instructor so you are fully able to participate in this course.

Academic Integrity
As an educational community, McHenry County College values the pursuit of academic excellence and integrity. In accordance with this philosophy and Chapter 10, Act 5 of the 1994 Illinois Community College Act, academic dishonesty in any form, including cheating, plagiarism, and all other acts of academic theft, is considered intolerable. Appropriate sanctions, up to and including suspension from the College will be imposed by authorized College personnel.

Copyright Policy
MCC will maintain current procedures and guidelines to ensure that all staff and students comply with applicable copyright laws and other intellectual property protection laws. The College will encourage staff and students to engage in the development of intellectual property and facilitate ownership protections with respect to such development of intellectual property.

The College expects that staff and students will act responsibly and ethically in a manner consistent with all copyright laws and College copyright procedures and guidelines. This policy authorizes the College to adopt and maintain such procedures and guidelines necessary to ensure compliance with copyright laws and to facilitate ownership protection with respect to the development of intellectual property.

Student Code of Conduct and the Judicial Process
Consistent with the MCC mission is an expectation that students will govern themselves in terms of appropriate behavior with emphasis on self-respect and respect for others. It is the practice of the College to respect the properly exercised rights of its students. The College recognizes a student’s rights within the institution to freedom of speech, inquiry and assembly; to the peaceful pursuit of education; and to the reasonable use of services and facilities at MCC.

MCC has adopted a Student Code of Conduct and judicial process to maintain a learning environment of respect, civility, safety, and integrity for all members of the MCC community.

Whenever possible, sanctions for violations of the Student Code of Conduct may be educational in nature. However, violations affecting the health and safety of members of the MCC community are deemed to be the most serious. Therefore, acts of violence, threats or dangerous behavior are most likely to result in a suspension
from the College. Violations of the academic dishonesty policy may also result in suspension or expulsion from the institution and/or reduced or failing grade.

**Children on Campus**
For the safety of children on campus, children (i.e., less than 16 years of age) are not permitted on campus unattended by a parent/guardian, except when they are attending classes offered by MCC for children. The College requires that no children be allowed into a classroom/laboratory environment, including the Testing Center, Learning Center and computer labs, solely for the purpose of a parent/guardian to provide direct supervision of his/her child.

**Teaching Schedule**
The scheduling of the activities and teaching strategies on this syllabus, but not the objectives or content, may be altered at any time at the discretion of the instructor.

**Resources**
The following are useful resources available to you as a student at McHenry County College:

**Advising and Transfer Center:**
Phone (815) 479-7565; Office A257  
www.mchenry.edu/ATC/Index.asp

**Counseling:**
Phone (815) 455-8765; Office A257  
www.mchenry.edu/counseling

**Financial Aid:**
Phone (815) 455-8761; Office A262  
www.mchenry.edu/financialaid

**Library:**
Phone (815) 455-8533; Office A212  
www.mchenry.edu/library

**Special Needs:**
Phone (815) 455-8676; Office A260  
www.mchenry.edu/specialneeds

**Tutoring and Study Skills (Sage Learning Center):**
Phone (815) 455-8579; Office A247  
www.mchenry.edu/sage