

# Geo 107 Introduction to Meteorology

## 3 Credit Hours

**Instructor: Brad Jakubowski**

Email: [bradley.jakubowski@doane.edu](mailto:bradley.jakubowski@doane.edu)

Phone: 402-416-1890

### Course Description:

An introduction to the principles of meteorology. Study of weather, climate, paleoclimate, and instruments used in the field. Work at the Doane College Weather Station may be included in the course. Upon successful completion of this course, students will have an understanding of the principles that govern the circulation of the atmosphere and the short and long termsequences of weather events.

**Required Text:** *The Atmosphere: An Introduction to Meteorology*, 11th Ed. Lutgens and Tarbuck. Pearson Prentice Hall, Inc. 2009. ISBN: 978-0-321-58733-6

**Additional Text Material:** *The Weather and Climate of Nebraska*, Nebraskaland Magazine. 1996. This material will be included in the class modules as a .pdf file.

### Weather Web Site Sources:

National Weather Service: [www.weather.gov](http://www.weather.gov)

JetStream – Online School for Weather: <http://www.srh.noaa.gov/jetstream//index.htm>

The Weather Channel: [www.weather.com](http://www.weather.com)

The Weather Underground: [www.wunderground.com](http://www.wunderground.com)

Accuweather: [www.accuweather.com](http://www.accuweather.com)

### Objectives:

The primary goal for this class is to introduce the student to basic concepts of meteorology. The student will gain an understanding of how weather works and develop the ability to apply observations to daily activities.

By the end of this course, students will:

1. Understand how different types of weather can develop from the three basic ingredients: air, heat, and moisture.
2. Collect basic data required for the analysis of weather phenomena.
3. Explore the processes that influence earth's weather and climate such as day length, water and air currents, differential heating of land and water, atmospheric moisture, and factors in cloud formation.
4. Acknowledge how meteorological terms such as humidity, dew point, latent heat, and barometric pressure apply to our daily weather conditions and forecasts.
5. Analyze current weather conditions and the location of weather systems and make future weather predictions based on those conditions.

6. Identify the characteristics of stormy weather and be able to correlate the relationships of gust fronts, shelf clouds, wall clouds, and tornadoes.

## Course Structure

Introduction to Meteorology is an undergraduate level, Internet and text-based, computer-delivered, distance learning course. It will be delivered online via Blackboard over an 8 week period. **Deadlines will be posted within the Blackboard Course Shell.**

**Modules:** The “course” will be structured around 8 “weekly” modules, with much of the previous week’s information often carrying over into the following weeks. This stresses the importance of completing the previous week’s information prior to taking on subsequent modules and maintaining a steady pace throughout the class. There will be weekly deadlines for assignments and assessments.

- Module 1:** The Atmosphere
- Module 2:** The Seasons and Heat
- Module 3:** Moisture and Stability
- Module 4:** Clouds and Precipitation
- Module 5:** Air Pressure and Wind
- Module 6:** Weather Patterns
- Module 7:** Thunderstorms and Tornadoes
- Module 8:** Hurricanes

Weekly work will involve a combination of powerpoint presentations, textbook readings, internet exercises, video and video clips, and at-home projects.

Each week a powerpoint presentation will be available to introduce and support information and concepts to be learned each week. Text book readings will be required to complete weekly assessments within each module. These assessments may span over multiple chapters. You will have multiple attempts to complete them, giving you additional exposure to the information at hand.

You will also investigate Yale’s Open Course on Meteorology and the National Weather Service’s Jetstream – Online School for Weather Website. The majority of the assessments will include multiple choice, fill in the blank and some true/false questions.

An example of the at-home projects may require multiple days of observing weather conditions with a short written summary report to be turned in upon its completion.

## Evaluation

The course will consist of a combination of weekly internet and text based “worksheets” to be completed online. There will also be at-home activities (such as videos and ‘experiments’).

Grades will be determined based on a total points percentage:

Grade	%
A	93 or higher
B	82 – 92
C	71 – 81
D	60 – 70
F	59 or lower

If you have any questions concerning a particular grade please feel free to bring them to me as soon as possible.

### **Technical Support**

For general questions about accessing Blackboard and course materials, please contact the Doane Helpdesk at [helpdesk@doane.edu](mailto:helpdesk@doane.edu), 402.826.8411 or by submitting the form at <http://www.doane.edu/about-doane/offices/its/help-and-support>.

### **Disabilities**

Students with disabilities substantially limiting a major life activity are eligible for reasonable accommodations in college programs, including this course. Accommodations provide equal opportunity to obtain the same level of achievement while maintaining the standards of excellence of the college. If you have a disability that may interfere with your participation or performance in this course, please contact me to discuss disability related accommodations and other special learning needs.

### **Doane College Academic Integrity Policy:**

The Doane College Academic Integrity Policy will be adhered to in this class. All projects and tests will represent your own work. Any use of others' ideas and words without proper citation of sources is plagiarism and will result in penalties to be determined by the instructor and/or the dean of undergraduate studies.

For a discussion of plagiarism, and a list of tools available to educators to ensure students are submitting original work, check out this useful website:

<http://www.guidetoonlineschools.com/online-teaching/plagiarism>