INTRODUCTION TO METEOROLOGY
GEO 107-7
DOANE COLLEGE - GRAND ISLAND

SYLLABUS

Course Number: GEO 107  Credit Hours: 3
Instructor: Charles E. Carpenter  B.S., M.S.
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Materials Required:
ISBN-9781305113589
Other supplemental materials will be supplied by the instructor as required for activities.

Course Description:
An introduction to the principles of meteorology.  Study of weather, climate, paleoclimate, and instruments used in the field.  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 term sequences of weather events.

FOUNDATIONAL AREA OF KNOWLEDGE:  This course fulfills the requirement for a Foundational Area of Knowledge in Scientific Perspectives.  Any course that fulfills that requirement will assure that students gain a greater understanding of scientific thinking and applications using core ideas in courses that include laboratory or field experience.  Students will consider the complexities of scientific methodologies in one or more disciplines of the natural sciences, the scientific context of issues they will confront as informed citizens, and the scientific impact on the global community.  Students will work to:
1.  Employ methods of science for inquiry in a scientific discipline
2.  Develop their scientific literacy and ability to critically evaluate scientific information
3.  Consider the ethical and social implication of scientific study and use of scientific findings.

GEO 103 will seek to accomplish all of these outcomes, with the greatest emphasis on Learning Outcome #1.

Course Objectives:
The student will be able to:
1.  Recognize cloud types and describe what type of weather is forming based on them.
2.  Identify the different air masses that influence our weather and make forecasts based on information given.
3.  Make informative interpretations when asked, “What’s the weather suppose to be?”
4.  Describe an “ozone hole” and its significance upon the weather.
5.  Understand the “greenhouse effect”.

6. Examine the factors that affect the wind.
7. Describe what “albedo” means.
8. Understand lapse rate.
9. Determine the consequences of global warming.
10. Understand the driving forces behind the weather we experience.

**Course Outline**
The primary goals for this class is to introduce the students 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. The course will be divided into seven parts. We will have an introductory look at the atmosphere to set the stage. Then we will look at heating of the atmosphere, temperature controls, moisture and cloud formation, condensation and precipitation, air pressure and wind, and basic weather patterns.

**Class Attendance**
Attending classes is imperative. Even if you are not participating in the lab component of this class, activities and discussion are such that missing out will put you at disadvantage. A portion of your grade will be based on attendance. If you must miss a class, you are expected to **notify the instructor prior to class**, complete all work, gather notes, and complete labs.

**Course Requirements/Grading:**
1. **Class Participation/Attendance:** This is determined by the number of times you are present in class and by your contributions during class discussion.

2. **Projects/Paper:** (Total Points) A weather monitoring exercise and a paper dealing with the weather conditions in Nebraska and influencing factors.

3. **Team Tests:** (Total Points) These tests will center around some type of lab exercise or activity. You will work on these tests with a partner or partners.

4. **Individual Tests:** (Total Points) These tests will be completed individually and will not involve lab work. These tests will be objective in nature.

   Grading scale: 90-100=A, 80-89=B, 70-79=C, 60-69=D, below 60=F

Late papers/assignments will be accepted as long as they are received by the instructor prior to the next class time.

**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.