CASPER COLLEGE SYLLABUS

Intro to Meterology (ATSC) 2000

Lecture: 3hrs, 3 cr.  Lab: 2 hrs, 1 cr.  Total Credit Hours: 4

Class Time: Online  Days: Online

Instructor's Name: Melissa Connely

Instructor's Contact Information:  Office Phone: 307-268-2017  Email: mconnely@caspercollege.edu

Office TM 125

Office Hours: Online and in office MW 10-11, TTH 11-12, and F by appointment.

Course Description: First course in meteorology for students with minimal background in math and science. Provides general and practical understanding of weather phenomena. Emphasizes observational aspects of the science, meteorological view of the physical world and the impact the science has on life and society. Includes atmospheric composition and structure, radiation, winds and horizontal forces, stability and vertical motions, general circulation, synoptic meteorology, clouds and precipitation, severe storms and climate and climate change.

Statement of Prerequisites: None

Goal: This Introduction to Meteorology course is designed to provide comprehensive knowledge of the atmosphere and its changing behavior as it relates to human activities and influence our daily lives.

Objectives: After having completed all the units of study, passing students should be able to:

1. Know and use the scientific method to critically examine and solve realistic problems.
2. Have a basic understanding of the atmosphere and its processes, such as energy transfer, balance and distribution.
3. Describe and explain the origin, composition, structure, short-term and long-term behaviors of the earth's atmosphere.
4. Understand and analyze important environmental problems related to the earth's atmosphere.
5. Understand and explain the factors that determine the distribution of solar energy over the Earth's surface and describe global patterns of temperature.
6. Understand and critically examine the atmospheric phenomena of temperature, moisture conditions, atmospheric stability, forms of condensation
and precipitation, air pressure and winds, circulation of the atmosphere, role of air masses, and weather patterns.

7. Describe the major cloud types and explain the phenomena of rainfall, fog, snow, sleet, and frost.

8. Define a cold, warm, stationary and occluded fronts and explain the processes leading to the formation of each.

9. Explain the formation of cyclones and anticyclones, tornadoes, hurricanes and typhoons.

10. Understand the mechanism of weather analysis and forecasting.

11. Describe and analyze the changing climate and have an understanding of the world climates.

12. Understand the impact that people have on the atmospheric environment.

General Education Outcomes:
- Use quantitative analytical skills to evaluate and process numerical data

Methodology: Combination of reading, guided online discussion, and online lab projects.

Point Distribution:

8 quizzes @50 points 400 points
Midterm and Final Exams @200 points 400 points
8 Guided Discussions @50 points 400 points
8 online lab projects @ 50 points* 400 points* must pass lab to pass course
Total: 1,600

Evaluation Criteria: Students will be evaluated on a regular basis through scores on quizzes covering the readings, exams, lab projects, and participation in class. Quizzes, exams, and discussions will account for 75% of your grade, and lab projects will account for 25% of your grade. Because this is a lab based course, you must pass the lab to pass the class. Grading scale: The grading scale is: A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = 59% or below.

**You will be responsible for 8 projects** - be sure to look these over as early as possible so that you have time to ask questions where needed.

These projects are an important and integral part of this class. Although some of the projects you are asked to do are straightforward and easy, you will find many of them difficult to very difficult. This is by design - all of these projects represent real world, hands on tasks. All of the projects require you to solve problems and communicate the results of your solution in a professional manner. Many of the projects require simple calculations and graphing, all of them involve writing and communications. Numerous surveys and studies report that employers are asking for people who can work as effective members of a group, solve problems, and communicate. This is your
opportunity to practice in a safe setting what will be required of you for the rest of your life!

Required Text, Readings, and Materials: Meteorology Today: An Introduction to Weather, Climate, and the Environment, 11th edition by Ahrens. Publisher: Thompson/Brooks-Cole. Use an older edition at your risk, but be aware that the chapter numbers may not match and some information may not be up to date.

Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade: TBA. Participation in this class is required and evaluated. Late work (lab activities) will be accepted with a penalty of 50%. Quizzes and Exams will remain available up to the last day of class.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly. This is also, where you will find course evaluation links during course evaluation periods.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor in order to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take your problem through the appropriate chain of command starting with the department head (Jerry Nelson), then the division chair, and lastly the vice president for academic affairs.

Academic Dishonesty - Cheating & Plagiarism: Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct.

ADA Accommodations Policy: It is the policy of Casper College to provide appropriate accommodations to any student with a documented disability. If you have a need for accommodation in this course, please make an appointment to see me at your earliest convenience.

Harassment and discrimination: Casper College seeks to provide an environment that is free of bias, discrimination and harassment. If you have been the victim of sexual harassment/gender or sex discrimination/sexual misconduct/assault, we encourage you to report this. If you report this to an employee, she or he must notify our college's Title IX Coordinator, Linda Toohey, Associate Vice President for Student Services, 125 College Drive, GW 412, Casper, WY 82601; (307) 268-2667;
linda.toohey@caspercollege.edu about the basic facts of the incident. Employee concerns should be directed to the Human Resources Director. For more information about your options, please go to: caspercollege.edu/nondiscrimination