

The University of Northern Colorado - Earth Sciences Program

General Meteorology

MET 205 ---- Fall 2013

MWF 2:30-3:20pm

Ross 1040 (MON & WED) and McKee L150 (FRIDAYS!!)

Instructor: Dr. Cindy Shellito

Contact Information

Voice Mail: 351-2491

Office hours: Ross 3235G; Mon and Wed: Officially 11-12 pm (but I am also available immediately after class most days)

E-mail: lucinda.shellito@unco.edu

You are also welcome to make an appointment, or just stop in if my door is open. I will respond to emails within 24 hours on weekdays. If you email me on a weekend, I will get back to you on the following Monday.

TA: Becca Kipf

Email: kipf1293@bears.unco.edu

Office Hour: TBA

Lab sessions:

Section 102: Thursday (8:00-9:55am) ROSS 3265 (Kipf)

Section 103: Tuesday (9:30-11:25am) ROSS 3265 (Shellito)

Section 104: Thursday (10:10-12:05pm) ROSS 3265 (Kipf)

Required Textbook: Meteorology Today, 9th or 10th Edition, by C. Donald Ahrens, Thomson Brooks/Cole Publishing Co., 2009 or 2013. You will also need to purchase the Met 205 Lab Manual (7th Edition, 2013) at the UNC bookstore.

Other Resources: Blackboard (<http://bb.unco.edu>) will be used as a supplement to the course, so check this on a regular basis for course information and announcements. We will also be using some online readings and the National Weather Service website: <http://weather.gov>

Here's the scoop on this class:

This course is designed to help you discover Earth's atmosphere and the forces that drive changes in the weather. You will learn to observe the daily changes that occur in the sky **through the eyes of a scientist**. This means that you must learn, **analyze information, and ask questions**. Through this course, you will develop a greater understanding of changes that you experience outside on a daily as well as a seasonal basis. We will explore some of the most severe types of weather phenomena, such as tornadoes, thunderstorms, hurricanes and winter storms, and learn to read weather maps to decipher the day-to-day changes in weather. We will also examine short-term and

long-term climate changes on Earth, and try to place present-day changes in the context of what has happened in the past. It is my hope that you will leave this course with a greater appreciation for what you see in the sky each day, a sense of how you might better prepare yourself for severe weather events, and a better idea of how to interpret news about climate change.

What's in it for you:

This course satisfies the Liberal Arts Core (LAC) and Elementary Education Licensure. Lectures and lab sessions are designed to help you meet the following objectives:

- Understand basic meteorological principles and how they affect your everyday life (for example, why do we have weather? How does weather affect the many aspects of human activity?)
- Discuss and demonstrate how scientists solve problems in meteorology (how do meteorologists make weather observations? Or a weather forecast?)
- Be able to identify cause-and-effect relationships, draw conclusions from evidence, and synthesize information to understand the current weather and climate situation.
- Explain how the science of meteorology developed from an historical perspective.
- Be able to record and interpret your own weather observations.
- Be able to analyze and interpret weather data in order to anticipate what will happen in the future.
- Understand the impacts of both short- and long-term climate changes on society.
- Know how to use some of the quantitative methods needed to interpret data (ok, this does mean a bit of math – but no fear! We will help you.)

How to get the most out of this class:

Ultimately, as with any adventure in your university experience, the more energy you put into it, the more you will get out of it, and the more fun you will have. Expect to have reading every day. While classes will generally be lecture format, but I may ask you to participate in brief activities or complete short assignments to test how well you understand the material. **If you miss a class it is your responsibility to connect with one of your classmates to obtain the notes.** UNC Blackboard will be used for announcements and handouts. I will post Powerpoint slides used in class within a week after the lecture in which they are presented. Use the slides to help you review lectures, but **BE WARNED:** the slides will not contain absolutely everything covered in lecture. On some days I will not use slides at all.

There will be short on-line quizzes throughout the semester to give you an idea how well you have been following what we have discussed and what types of questions may appear on the exams. There may also be short in-class pop quizzes or in-class assignments. Such in-class assignments and quizzes will not be returned to you if they are collected.

IMPORTANT NOTE: THE RESPONSIBILITY FOR LEARNING THE MATERIAL IN THIS CLASS IS ON YOUR SHOULDERS! The TA and I will serve as your guides, direct you to the most important material, and help clear up misunderstanding through lectures, planned activities and discussion. But ultimately, you must put in the effort to study the text and assignments. I will not always lecture on absolutely everything you need to know!

Grading

This course is offered on a +/- letter basis (A-F) (see grade breakdown below). Exams in this course will consist of 2 midterms, a 'mini-midterm,' and a final. You can make up a missed exam if you have written proof of illness or a family emergency. Lab work accounts for 30% of your grade. **Lab participation is essential to passing the class!**

Grading Scheme

Online or in-class quizzes, surveys, participation-- 5% of your grade

Weather instrument/observation assignment – 15%

Lab and Home Work – 30%

Midterm Exams – 15% each (30% total)

Final Exam -- 20%

Grade Breakdown (Final course percentage based on final weighted sum of scores from assignments listed above)

A > 92.5	72.5 <= C < 77.5
90.0 <= A- < 92.5	70.0 <= C- < 72.5
87.5 <= B+ < 90.0	67.5 <= D+ < 70.0
82.5 <= B < 87.5	62.5 <= D < 67.5
80.0 <= B- < 82.5	60.0 <= D- < 62.5
77.5 <= C+ < 80.0	F < 60.0

LAB SESSIONS

A few things to know about labs:

- Labs will meet during the first week of classes. Please bring your **text and a calculator!**
- Please wait until the lab period to begin work on a lab. (You may begin earlier, but beware: there will be last minute changes to some labs. Also, we will NOT be doing all the labs, nor will we necessarily do labs in the order in which they are presented in the manual. Additionally, we will NOT answer questions about how to do future labs).
- Labs are due at the **end of the lab period**. We can accept no late labs without a legitimate excuse – illness or family emergency. If you are given an extension on a lab, the lab must be submitted the next time you come to lecture.
- You **must attend the lab you are enrolled in**, unless you have made a special arrangement with ME AND WITH BECCA PRIOR TO THE LAB. There are only 24 seats in each lab, and each lab is full.

- Your lowest lab score will be dropped from the calculation of your final grade (ie, you may miss one lab). All labs are worth the same number of points.
- If you have already missed one lab, and must miss another because of illness or family or personal emergency, jury duty, or (in RARE cases) inclement weather, you **MUST** contact me and Rebecca as soon as possible (before the end the week in which you miss the lab) and provide proof of your illness or emergency (e.g. doctor's note). In some cases, you may be able to do the lab on your own.
- If you simply forget to come to lab, or, if you miss lab because you have overslept, have legal troubles, or were required to attend your dorm pillow fight, etc., you cannot make up the lab.
- PLEASE NOTE: We make every attempt to grade consistently and fairly in this class. If you feel your assignment or exam has been graded incorrectly, please write a few sentences detailing how you feel it was graded incorrectly, and where you feel you deserve more points. Submit this with your original assignment to the TA or the instructor.

The FINE PRINT:

TURN YOUR CELL PHONE OFF IN CLASS. During an exam, if you are seen with a cell phone, you will receive a ZERO. Additionally, In accordance with the student honor code, any copying, cheating, or plagiarism will result in a zero score and that entire assignment and the paper will be forwarded to the Dean of Students office with a recommendation for disciplinary action.

Disability Support Services: Any student requesting disability accommodation for this class must inform the instructor giving appropriate notice. Students are encouraged to contact Disability Support Services at (970) 351-2289 to certify documentation of disability and to ensure appropriate accommodations are implemented in a timely manner.

Tentative Timeline and Reading Assignments

(This table presents a general guideline. Weekly topics and reading assignments may vary depending on current weather events and student interest. Stay tuned to Blackboard for updates to this schedule. MIDTERM DATES WILL NOT CHANGE.)

Week	Topic	Lab
Week 1	Course overview, Primer on weather maps, Intro to the atmosphere, introduce wx instrument project	Chapter 1
Week 2	Temperature and structure of the atmosphere	Chapter 2
Week 3	The greenhouse effect, seasons	Chapters 2 & 3
Week 4	Moisture and Relative Humidity Moisture and Clouds (cloud identification)	Chapter 4
Week 5	MT #1 on Wed. Sept 25	
Week 6	Stability and Cloud Development	Chapter 6

Week 7	Wind: The Atmosphere in Motion, Global Wind systems	Chapter 8
Week 8	Air Masses, Fronts, Mid-latitude cyclones	Chapter 11
Week 9	Developing Cyclones and Weather Forecasting	Chapters 11, 12, 13
Week 10	MT#2 on Wed. Oct 30	
Week 11	Short-Term Climate Change: ENSO and the NAO	TBA
Week 12	Long-Term Climate Change – Melting Ice, Preparing for the future	TBA
Week 13	THANKSGIVING WEEK	
Week 14	Severe WX and impacts: Lightning, Tornadoes, Severe T-Storms	Chapter 14
Week 15	Hurricanes	Chapter 15

THE FINAL EXAM IS Monday, Dec 9th at 1:30pm!!