

# MET 3503: WEATHER & FORECASTING

Dr. Corene Matyas

Spring 2008

Course meets MWF Period 6 in 3012 Turlington (plus 2 Saturday Field Days on campus)

## Office Hours

Mondays 9:30-10:30 AM and 2:00-3:00 PM, Wednesdays 9:30-10:30 AM, and by appointment  
3119 Turlington Hall email: [matyas@ufl.edu](mailto:matyas@ufl.edu) phone: 392-0494

Note: For best results – utilize office hours. If you are having trouble with the course, come and see me so that I can help you! Do not wait until mid-semester.

PREREQUISITE: MET1010, GEO2200, GEO2242, or permission

## Course Information

In this course, you will gain experience in using meteorological instruments, discover sources of meteorological data, and learn how to utilize this data to develop a forecast. **It is assumed that you have a basic understanding of meteorological concepts** such as the difference between high and low pressure systems and the type of weather associated with each. Individual time spent completing exercises and projects will vary among students depending upon prior meteorology knowledge and ability to visualize/recognize spatial patterns. Please note that your enrollment in this course acknowledges your acceptance of the information contained within this syllabus.

## Required Textbooks

Explorations in Meteorology: A Lab Manual: Oklahoma Climatological Survey

Suggested Textbook (for reference of terminology, etc)

The Atmosphere: Lutgens and Tarbuck; or Meteorology Today: Donald Ahrens

## Grades and Grading Scale

Laboratory Exercises and Reading Quizzes: 25% Forecasting Contest/Weather Briefing: 10%

2 Exams: 20% each Data Collection Field Project: 10% Final Project: 15%

A: 90.0 % and above	B+: 85.0-89.9%	B: 80.0-84.9%	C+: 75.0-79.9%
C: 70.0-74.9%	D+: 65.0-69.9%	D: 60.0-64.9%	E: less than 60%

It is your responsibility to know your current grade in the class. Grades will be posted to the WebCT Vista course website.

## Lab Exercises/ Readings Quizzes

Each week we will complete exercises from the lab book. The labs should be reviewed prior to Monday's class so that you bring the required materials (pencil, colored pencils, extra paper, calculator, etc). Reading quizzes will be posted to WebCT for you to take to demonstrate that you have read the lab. Exercises are due at the beginning of Friday's class and may be graded in class. Late labs will be accepted for partial credit if received by class time on Monday. No credit will be given after that time. Bring your lab text to each class. You may want to make copies of some of the maps and graphs to use for practice as you need to turn in "clean" map analyses and graphs. The majority of work on the lab exercises will be done on your own time, so be sure to **ask questions before the Friday due date**.

## Forecasting Contest

Beginning the week of January 14, you will record two forecasts per week on an official sheet that will be verified later in the week. Each student will give a weather briefing during the semester to discuss contributing factors to that day's forecast. Details pertaining to the forecasts and rules will be provided on a separate hand out. Note that late forecasts will not be accepted – if you plan to be absent, you must submit your forecast ahead of time.

## Exams

You will take 2 exams in this course. Think of these exams as lab practicals – you will be asked to complete several types of analyses that we have performed in the lab exercises and have discussed in class. Unless official documentation of an absence is presented (Doctor's note, police report), **NO MAKE-UP EXAMS** will be permitted!

## Final Project

Towards the end of the semester, you will work individually, in small groups, and as a class to analyze the weather patterns that occurred on a specific date. You will analyze data obtained from sources such as weather stations and radiosondes to analyze this event and will write up a report based on the data and your knowledge of atmospheric processes. You will turn in a final write up that includes all work performed on the project and you will upload this write-up to WebCT. The final date and time that the write-up will be accepted is during the final exam period for this course, which is Monday April 28, 7:30-9:30 AM. You may submit the project early if you wish. **NO PROJECTS WILL BE ACCEPTED AFTER 9:30 AM ON THIS DATE. NO EXCEPTIONS!!!!!!!!!!!!!!**

## Data Collection Field Project

The goal of this project is to collect data for a diurnal cycle over different surfaces on campus to determine how temperature, humidity, pressure, and other data fluctuate over the course of a day and how the local conditions are affected by state of the atmosphere (cloudy day vs. clear day, etc). Data collection will occur on two Saturdays during the semester: **February 2** and **March 29**. **MARK THESE DATES ON YOUR CALENDAR!** Each student will spend 2 hours on each date collecting observations with hand held instruments and recording these observations. We will then graph these data and you will submit a report detailing the day's weather as a whole and your experience obtaining the observations. We will also compare data gathered on the two days. To make up for time spent out of class, you will be given equal time off from class. See schedule for dates. Failure to show up and take the observations for your time slots will result in a severely penalized score for this project.

## Instrument Policy

Instruments must be signed out and signed in again if used outside of the group class setting when I am present. Take care not to set them on the ground or in a location where they will get wet, stepped upon, dropped, stolen, etc. Many of the instrument sensors must be specially cleaned so take care not to touch them (the oil from your skin can damage them), drop them in the mud, etc. Proper use of the instruments will be demonstrated during class and it is your responsibility to take careful note and ask questions if you do not understand. If you lose or break an instrument, you are responsible for its replacement cost and you will not be permitted to handle other instruments until it is replaced. Your enrollment in this course and use of these instruments constitutes your acceptance of these terms. If you would like to purchase instruments for your own personal use, many suppliers can be found online – see me for specific company names.

## WebCT Vista Information

This syllabus, readings quizzes, announcements, copies of handouts, grades, and other course information will be posted on the WebCT Vista course management system webpage. Access this page at <http://lss.at.ufl.edu>

If you miss a class, it is your responsibility to learn the material covered during your absence. Come see me if you have questions. You are advised to check Vista at least once per week to verify that week's activities and any announcements about upcoming quizzes, projects, etc.

## Disability Statement

Students requesting classroom accommodation must first register with the Dean of Students Office. This office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Please provide this documentation to me as soon as possible, particularly if you have a physical disability that requires modification of the outdoor data collection portion of the course.

## Academic Honesty

You are bound by the student academic honor code.

"We, the members of the University of Florida Community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

You are encouraged to work together on projects and to discuss strategies for completing map analyses, etc, but all assignments must represent your work and be written in your words. The first case of academic dishonesty will receive a grade of zero for the assignment or exam. A second offense will result in a report to the appropriate student body.

## Attendance and Proper Conduct

Attendance will not be regularly taken, however, your performance in this course will suffer if you do not attend class regularly. Forecasts are submitted and graded during class, and lab exercises are due and may be graded during class. Late forecasts will not be accepted. Please come to class ready to learn – bring your lab manual and questions to each class. Turn off cell phones, put away newspapers, and refrain from casual conversation once class begins. If you have a question – please raise your hand and ask rather than disturb your neighbor.

## Lecture/Lab Topics:

Introduction, data basics, resources  
Radiation and Energy Transfer  
Daily Temperature Cycle  
Atmospheric Moisture  
Air Masses and Fronts  
Surface Analysis

Radiosondes and Soundings  
Soundings and Stability  
Upper-Air Analyses  
Thunderstorm Forecasting  
Severe Thunderstorm Case Study  
Hurricane Forecasting

## **Important Dates:**

January 14 - Forecasting begins

Forecasts due in class Monday (for Tuesday) and Wednesday (for Thursday)

January 21 - No Class Martin Luther King Jr. Day

January 18 - No Class (for time spent on Field Day 1)

January 25 - No Class (for time spent on Field Day 1)

February 2 - Field day 1 begins 7 AM Saturday

March 5 – Exam 1

March 10-14 No Class – Spring Break

March 29 - Field day 2 begins 7AM Saturday

April 11 – Exam 2

April 16 – No class (for time spent on Field Day 2)

April 18 – No class (for time spent on Field Day 2)

April 23 – Last Day of Classes (last day for me to approve surface analyses for final project)

April 28 – Final Projects DUE by 9:30 AM on **WebCT**