

# METR 2011 – Introduction to Meteorology I Laboratory

## Syllabus: Fall 2011

**Instructor:** Derek Stratman

**Office:** NWC 5340

**Office Hours:** Will be discussed in class

**Phone:** None

**Email:** stratman@ou.edu

<b>Section 011</b>	T	5:00-7:00pm	NWC 5720
<b>Section 021</b>	R	11:30-1:20pm	NWC 5720

### Content:

This lab will complement but not necessarily follow the lecture material in METR 2013 directly. Special emphasis will be given to utilizing computational tools such as EXCEL, GEMPAK, Matlab, and shell scripting to study the atmosphere. Other tools such as IDV may be covered as well.

### The Official Description from the OU Catalog:

Reinforces the theoretical concepts provided in the counterpart lecture course Meteorology 2013, which introduces students to important phenomena and physical processes that occur in the earth's atmosphere. Through a series of laboratory exercises, students will learn the basic concepts and tools that are used to study atmospheric problems. Special emphasis will be placed on developing information technology and computational skills. The laboratory exercises target the topics covered in the lecture component.

### Goals:

By the end of the semester, I hope all of the students will:

- 1) Be able to navigate weather graphic software and generate weather graphics
- 2) Learn how to write and execute basic computer scripts
- 3) Identify weather phenomena from observations.
- 4) Learn how to manipulate formulae in order to answer questions.
- 5) Develop a routine for reading, identifying and forecasting weather.
- 6) Achieve success in higher forms of thinking beyond “understanding.”

### Text:

*Required* – “Practical Guide to Linux Commands, Editors, and Shell Programming (2nd Edition)” – by Sobel, Mark G.

*Recommended* – “Linux in a Nutshell”, (5<sup>th</sup> edition) – by Seiver, Weber, Figgons, Love, and Robbins. O’Reilly Media Inc.

*Other handouts as given*

**Grading Scale:** 90-100 A  
 80-89 B  
 70-79 C  
 60-69 D  
 00-59 F

**(Tentative) Class Schedule:**

<b>Week</b>	<b>Topic</b>
Week 1	Introductions/Syllabus
Week 2	Conversions/Units/Dimen.
Week 3	Linux
Week 4	METAR
Week 5	Surface Map Contouring
Week 6	Radiation
Week 7	Satellite Observations
Week 8	Rainfall Calculation
Week 9	Atmospheric Moisture
Week 10	Atmospheric Stability
Week 11	Radar
Week 12	Soundings
Week 13	Severe Weather Parameters
Week 14	Winter Weather
Week 15	Review for METR 2013 Final

**Grading:** 13 Lab assignments 60%  
 13 Weekly Quizzes 20%  
 Forecast Journal 20%

**Lab Assignments:** Lab assignments must be turned at the beginning of the next lab class. The only exceptions will be for extenuating circumstances (i.e. death in the family, hospitalization, etc.) when I am notified at least 24 hours in advance. Lab assignments turned in late will be deducted 10% for every day past the due date.

**Weekly Quizzes/Attendance:** At the start of every lab, there will be a short 5-10 minute quiz covering the previous week's lab topics. If you need to miss a lab for extenuating circumstances, then talk to the lab instructor for making up lab work and quizzes. Unexcused labs will result in a 0% for quizzes.

**Forecast Journal:** Every week you will be expected to compile an online weather journal and submit it on D2L. Its purpose is to engage you with the daily weather. You will come to realize many things about weather and additionally you will learn how disconnected most people, even meteorologists, are from the weather. For each week day (M-F), you will record observations for an assigned city onto a provided template. For one of the days during the week, you will produce a forecast for the upcoming 24-hour period. For whatever 24-hour period you forecast for, I want you to verify your forecast for that same location the following day.

**Forecast Challenge:** You are strongly encouraged to participate in the WXChallenge (<http://wxchallenge.com/>) hosted here at OU. This will give you an opportunity to begin honing your forecasting skills for many different parts of the U.S. and probably even a Canadian city. You will not be formally graded on your forecasts, except for recording them in your forecast template, which will be provided, and turning it in at the requisite times. If you beat me in one or two forecast cities you will receive 2% extra credit onto your final grade. If you beat me in three or four cities out of a possible five during the semester, then you will receive 5% extra credit onto your final grade. If you beat me in all five cities, then we will discuss when the time comes.

**Web Page:** This course has a web page located at: <https://learn.ou.edu>. All grades will be posted on this class website and if you have any questions about what has been posted contact me immediately.

**Holidays:** Labor Day - September 5  
Thanksgiving - November 21-26

**Honors Section only:** All homework and lab assignments will be similar to the traditional section. In addition, honors students may be required to complete a semester project. Stay tuned for future details.

**Academic Misconduct:**

**Academic misconduct is a serious breach of ethics since it potentially can harm those students who are honestly pursuing their studies. All instances of alleged academic misconduct will be thoroughly investigated and action taken under the official university policies. All students are expected to be familiar with and abide by the OU Academic Misconduct Code. Information on this code and other student policies is located at <http://studentconduct.ou.edu>.**

You are allowed to work with fellow classmates on any and all lab assignments; however, each and every lab must be your OWN work with your OWN write-up. Any copying is strictly prohibited and will result in a zero on that assignment and the loss of any extra-credit opportunities for the entire semester. If this behavior continues, immediate action will be taken to report the student for academic misconduct.

**Students with Disabilities:**

*"The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173."*