

## **Metr 2011 -Section 021 - Intro to Meteorology I Lab (Honors Section)**

An investigative introduction to atmospheric radiation, moisture, stability, cloud formation, precipitation, radar, and satellites, designed for students enrolled in the OU honors program. Laboratory work includes applications of theory, introduction to weather maps and forecasting, with emphasis on using new technology and computers for visualization.

**Meets:** Tuesday 10 a.m. – 12 noon in NWC Rm. 5720

**Instructor:** Michael Morris

Office: NWC 5330

Office Hours: T 1-3 p.m. and by appointment (make 24 hrs. ahead)

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**Lecture Time:** TR 8:30 -9:45 a.m. NWC Rm. 5820

**Grading:** Labs (16)..... 80%  
Quizzes (5) ..... 10%  
Attendance / Participation.....10%

Note: The lowest lab and lowest quiz will be dropped.

**Books:** None mandatory as lab materials will be provided, but *Meteorology for Scientists and Engineers* by R.B. Stull is recommended as some lab or quiz questions may come from it.

**Mandatory work:** Each lab assignment will be posted on the website prior to lab meeting. Read over the assignment and read the suggested passages to familiarize yourself with the subject of that day's lab. Attendance at each lab session is mandatory, and the lowest lab grade will be dropped to accommodate for any unforeseen circumstances. Five quizzes will be given over the course of the semester, but any quiz WILL NOT cover material which is expected to be covered by that day's lab activity.

**Submission Policy:** Since this class meets once a week, labs are due on the next session after they are performed (one week). Assignments may be submitted up to 3 days later (i.e. the Friday following the due date) with a 20% penalty, and no work will be accepted after that.

**General Goals of the Course:** To reinforce material learned in the lecture segment of the course, as well as give the students practical experience using the concepts learned in lab to understand basic forecasting techniques, the tools used by professional meteorologists, and software which will be useful during the remainder of the undergraduate curriculum.

**Reasonable Accommodation Policy:** "Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities." See <http://www.sa.ou.edu/ods/policies.htm> for more details.

**Academic Misconduct Policy:** "Each student should acquaint him or her self with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap." See <http://www.ou.edu/provost/integrity/> for more details and the entire OU Academic Code can be found at <http://www.ou.edu/studentcode>

Lab Schedule (Subject to change)

22 August – Introductory exercise, units, conversions, geography basics.  
29 August – The structure of the atmosphere  
5 September – Understanding electromagnetic radiation  
12 September – Radiative transfer of energy in the atmosphere  
19 September – Computing skills, UNIX, HTML programming  
26 September – Introduction to thermodynamics  
3 October – GEMPAK  
10 October – Temperature measurements  
17 October – Moisture in the atmosphere  
24 October – Air masses and fronts  
31 October – Surface analysis using GEMPAK  
7 November – Thermodynamic diagrams and their use in forecasting  
14 November – Home-made thermodynamic diagrams  
21 November – Satellite meteorology  
28 November – Upper-air maps  
5 December – Severe storms exercise, evaluations