Lab Syllabus

Atm Sci 361 – Synoptic Meteorology II
Lecture: TR 9:30 - 10:45a, EMS E170
Lab: W 2 - 3:50p, EMS W434
Spring 2019

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Office: EMS W422 (behind the bookshelf)
Office Hours: W 12:30 - 1:45p (usually in the lab during this time)

Lab Goals
Labs will be a time for *applying* what is taught in lecture. We will analyze real-time weather observations to develop our conceptual models of the atmosphere which, in turn, will help solidify the theory.

Lab Overview
The first 25-40 minutes of each lab will begin with a weather briefing where we will apply the material learned in class to real-time observations of the atmosphere. The rest of the lab period will be spent working on the graded lab assignment.

Materials
Normal class materials (folder, notebook, pencil) plus colored pencils for some assignments.

Assignment Expectations
Though group work is fine, assignments should be completed individually and will be due exactly one week after they are assigned (by the beginning of the next lab).

Grading
This lab will count as 50% of your grade in ATM SCI 361. The lab grade breakdown is: lab assignments (90%) and weather briefings (10%). Since there will be ten lab assignments, each is worth 4.5% of your final grade in the course. Assignments will be due exactly one week after they are assigned (by the beginning of the next lab), and can be turned in to my mailbox, to me personally, or at the beginning of the next lab. **Late work will be accepted only with a 33% per day penalty.** Exceptions will only be granted in the circumstance of an approved emergency situation.

Weather Briefings

Each week, two students will *lead* a 20-40 minute weather briefing emphasizing applying what you have learned in your studies to the current synoptic-scale weather regime. Observational analysis and examining model output is required. The focus should be on applying the theory from previous labs and lectures, when possible. Previous weather briefings given in Atm Sci 360 can be used as a general template. Hours of preparations are not expected; however, the two presenters should meet before class to determine what to focus on and what to show. The presentation schedule can be found below. Some useful links can be found on Clark's website (http://derecho.math.uwm.edu/classes/AtmSci361.html).

Notice I said the students should *lead* a weather briefing. In an NWS Weather Forecasting Office, other forecasters will typically ask questions, ask to see additional data, etc. This provides better situational awareness for the whole office. In a similar way, questions and discussion are encouraged by everyone in the room for our weather briefings.

The briefings will account for 10% of your lab grade, which is 5% of your total grade. Most of this grade is based on participation. However, the overall effort, coherence (does the logic make sense in light of synoptic/dynamic meteorology theory?), and clarity of the presentation will also be accounted for, as well as your engagement as an audience member.

Week	Date	Lab #	Presenters
1	1/23	**No Lab**	
2	1/30	**No Lab**	
3	2/6	Lab 1: Frontogenesis	*A Harris*
4	2/13	Lab 2: QG Vorticity Equation	*A Harris*
5	2/20	**No Lab**	
6	2/27	Lab 3: QG Height Tendency	*Austin, Hannah*
7	3/6	Lab 4: QG Omega Equation	*Sara, Giorgio*
8	3/13	Lab 5: Omega and Q Vectors	*Alex*
9	3/20	**No Lab (Spring Break)**	
10	3/27	Lab 6: Cyclone Development in QG	*Ashley, Devon*
11	4/3	Lab 7: Insentropic Analysis	*Alex*
12	4/10	Lab 8: Insentropic Potential Vorticity	*Hannah, Sara*
13	4/17	Lab 9: IPV Anomalies	*Ashley, Austin*
14	4/24	**No Lab**	
15	5/8	Lab 10: Extratropical Transition and IPV	*Devon, Giorgio*
16	5/15	**No Lab (Finals Week)**	