

A ATM 316: Dynamic Meteorology I
Fall Semester 2014
Class number: 8022

Meeting time and place: Tuesday, Thursday 8:45 – 10:05 AM in ES 232

Instructor: Professor Brian Rose, ES 315

Email: brose@albany.edu **Phone:** (518) 442-4477

Office hours: Monday 1:30 – 2:30 pm and Wednesday 3:00 – 4:00 pm (or by appointment)

Website: http://www.atmos.albany.edu/facstaff/brose/classes/ATM316_Fall2014/

Teaching Assistant: Christine Bloecker, ES 346

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Office hours: Monday 1:00 - 2:00 pm and Wednesday 4:10 - 5:00 pm (or by appointment)

Prerequisites: A ATM 211, A PHY 150/151, A MAT 214, A MAT 311 (corequisite)

Course description:

Equations and concepts that provide the basis for describing and understanding atmospheric motion systems on planetary and synoptic scales; review of mathematical concepts and tools; kinematics of horizontal flows; fundamental and apparent forces; basic conservation laws; elementary applications of the equations of motion.

Grading and course requirements: A-E, 3 credit

Class presentations: 10%

Homework assignments: 25%

Midterm exams (*tentatively Tuesday Sep. 30 and Tuesday Nov. 4*): 30%

Final exam (*Friday Dec. 12 3:30-5:30 pm*): 35%

Required textbook:

An Introduction to Dynamic Meteorology (5th ed.) by Holton and Hakim (2013)

Recommended books:

Mid-Latitude Atmospheric Dynamics: a first course by Jonathan E. Martin (2006)

Atmosphere, Ocean and Climate Dynamics: an introductory text by Marshall and Plumb (2007)
(all three books will be on reserve at the Science Library)

Homework policy:

There will be about 6 or 7 homework assignments throughout the semester. Homework will be due at the beginning of class on the stated due date, usually 1 week after it is handed out. LATE HOMEWORK will incur a penalty of 15% per day. *Exception: each student is granted ONE freebee late day to be used on one assignment of their choice.* For these purposes “days” are defined as 24 hour periods after the due date and time, which is 8:45 am. Late assignments will not be accepted after solutions have been discussed in class.

Mid-term exam:

There will be two in-class exams, tentatively scheduled for Tuesday September 30 and Tuesday November 4 2014. Details about the exam format will be discussed in class.

Class presentations and participation policy:

The first 10 minutes of each class will be devoted to student-led presentations summarizing or synthesizing material from the previous lecture. Students will present in groups of 2 (to be assigned in advance); presentations may involve a summary/bullet points of the main topics, an example applying the material from class (e.g. a synoptic map or an animation/video), or anything else that relates to the lecture material.

Students who are not presenting will be given a rubric grading the content and delivery of the presentation, which will be averaged and converted into a grade for the presenters. There will be a comment section as well if you're confused by something in the presentation, catch any errors, or have any general comments. Substantive comments will increase your own presentation grade.

Students are expected to attend all lectures ON TIME in order to participate fully in these summary discussions. Any absence should be discussed with Professor Rose **in advance** whenever possible (email preferred). UAlbany policies for Medical Excuses can be found here: http://www.albany.edu/health_center/medicalexuse.shtml

Academic integrity:

In this class we will strive for an atmosphere of open inquiry and mutual respect. Class discussion is encouraged. Some collaboration and discussion with classmates on homework exercises is permissible. However you must always submit your own work and your own thoughts, and give proper credit to others for previous work and ideas. It is every student's responsibility to become familiar with the standards of academic integrity at UAlbany. Claims of ignorance, of unintentional error, or of academic or personal pressures are not sufficient reasons for violations of academic integrity. Please review these policies in the Undergraduate Bulletin at http://www.albany.edu/undergraduate_bulletin/regulations.html