

ATM 211: Weather Analysis and Forecasting

Fall 2024

Course #: 9383 / 9384

T/Th 10:30-11:50a, W 3:00-5:00p

Instructor: Ross Lazear, ETEC 417: rlazear@albany.edu

Office hours:

1:30-2:30 PM Tue., and 10:15-11:15 AM Wed., ETEC 417 (Zoom by request)

TA: Michael Barletta, ETEC 366: mnbarletta@albany.edu

Wed., 1:00-2:00 PM, and Thur., 12:00-1:00 PM in ETEC third floor atrium

Class webpage: <http://www.atmos.albany.edu/facstaff/ralazear/ATM211>

Lecture topics covered:

Atmospheric properties
Satellite and radar
Isobaric maps and variables
Forces, force balances (geostrophy/Ekman/gradient wind)
Forcing for ascent/precipitation, jets/jet circulation
Fronts
Cyclones (mid-latitude)
Introduction to numerical weather prediction (models)
Forecasting
Atmospheric stability
Atmospheric flow patterns and properties

Lab topics covered:

Surface station models
Radar/satellite lab
METARs
Thermodynamic diagrams (Skew-T)
Hand analysis
Weather forecasting

Objectives:

The goals of this course are to teach you the fundamental synoptic-scale processes of the atmosphere. The final part of the course will teach you how to forecast for various cities around the country in a fun, competitive environment. Your responsibilities will include taking several quizzes on geography and lecture material, mapping and Skew-T assignments, exams, as well as forecasting during the final few weeks of the course.

Grading:

*** 20% Quizzes

*** 20% Midterm

*** 25% Final exam

*** 35% Homework / maps / forecasting / lab assignments

Late same day: 10% off; next day 20%; then 30%; 50%; no credit.

Typically, final grades are distributed approximately as such:

93% A / 90% A- / 87% B+ / 82% B / 80% B- / 77% C+ / 72% C / 68% C- / 65% D+ / 60% D

However, I will use my discretion to curve this scale, especially in cases where students show appreciable learning of the material by the end of the semester.

Prerequisites:

ATM 210/209
(PHY 140)

Cell phones:

Unless an emergency, please put away your cell phones during class.

Absences:

Medical: Please refer to the University's medical excuse policy:
https://www.albany.edu/health_center/medicalexcuse.shtml

Religious observance: New York State Education Law [Section 224-A](#) excuses absences due to religious beliefs. Students must notify the instructors in a timely manner prior to the absence.

Undergraduate academic regulations, and standards of academic integrity:

https://www.albany.edu/undergraduate_bulletin/regulations.html

Mental health:

Your mental health is also of utmost importance! Please take care of yourself and reach out to me if you need any help. You're always encouraged to reach out to Counseling and Psychological Services (CAPS) at 518-442-5800 or consultation@albany.edu to schedule a virtual appointment. The [CAPS website](#) has helpful resources as well.