ATM 211: Weather Analysis and Forecasting
Spring 2023
Course #: 1114/1115
T/Th 10:30-11:50, W 4:30-5:25 – ETEC 450

Instructor: Ross Lazear, ETEC 417: rlazear@albany.edu
Office hours (Zoom upon request):
2:00-3:00 PM, Mon., and Wed., and by appointment

TA: Tyler Leicht, ETEC 412: tleicht@albany.edu
Office hours: 2:00-3:00 PM Tue., and Thur., and by appointment

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

Course description:
An introduction to the use and interpretation of observed weather data, satellite and radar imagery, and atmospheric soundings; horizontal atmospheric forces and force balances; air masses and fronts; extratropical cyclone development and structure; mid-latitude flow properties; temperature and precipitation forecasting.

Topics covered:
- Atmospheric properties and measurements
- Satellite and radar
- Isobaric maps, levels of the atmosphere, and hand contour analyses
- 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

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:
*** 25% Quizzes
*** 20% Midterm
*** 25% Final exam
*** 30% Homework / maps / forecasting
    Late same day: 10% off; next day 20%; then 30%; 50%; no credit.

Prerequisites:
ATM 210(Z)/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.