Course:
Atm 350  Meteorological Data Analysis and Visualization  Spring 2019
Class Number: 5880 Credits: 2

Schedule:
T, Th 2:45 p.m.–4:05 p.m., ES 333 (Maproom)

Instructors:
Kevin Tyle, ES 235, 442–4578, ktyle@albany.edu
Office hours: TuTh 10:30 a.m.–11:30 a.m. and by appointment
Ross Lazear, ES 322, 437–3601, rlazear@albany.edu
Office hours: MoWe 2:00 p.m.–3:00 p.m. and by appointment

Prerequisites:
ATM 211, ATM316

Grading:
One 80-minute exam (1/5 of final grade); Class Project (1/5 of final grade);
Homeworks (3/5 of final grade)

Scope of Course:
This course provides an overview to the main types of meteorological datasets used by operational forecasters, researchers, and numerical weather prediction modelers. Students will master a selection of software applications used to display and manipulate these datasets. The course will primarily focus on software developed for UNIX operating systems; therefore, students will learn the basics of the UNIX command shell environment, via an introduction to common UNIX commands, as well as simple shell scripting. Students will use a variety of open-source Python libraries to analyze and display meteorological data. Real-time and historical weather datasets will provide the context for the exploration of both the software applications and the UNIX environment.

The course will be conducted via a mix of classroom lectures and computer labs. Five or six graded lab assignments will be assigned as homework assignments. Each such assignment will have equal weight in the determination of the overall homework score, which will account for 60% of the student’s final course grade (thus, each assignment will be worth 10–12% of the final course score). There will be one exam during the semester. This exam accounts for one-fifth of the student’s final grade. Each student will complete a final project on a case study of their choice using analysis and visualization techniques that they have learned during the semester. This project will also account for 1/5 of the student’s final grade.

Homework assignments will be available via the course website at the beginning of the class period on which they are assigned, and will be due at the start of class on the date specified, unless otherwise directed. For the first 24 hours that the assignment is turned
in late, two points will be deducted from the maximum total of ten. Each successive day (including weekends) that the assignment is tardy will entail an additional one point loss. Since assignments will typically be "turned in" electronically, each file will automatically have a timestamp, to avoid any questions of the time the student completed the homework. The instructors reserve the right to make exceptions to the tardiness policy if the situation warrants. Students are encouraged to log into one of the maproom computers, or their own personal computer or tablet, during class in order to interactively follow along with the presented material.

It is expected though that during class time, computer use will be restricted to ATM350-related material, not private web surfing, social networking, etc.

CELLPHONE use (including text messaging) is NOT ALLOWED during classtime, nor are students allowed to leave the room to take/make personal phone calls. This will ensure a focused, non-distracting classroom environment.