Physics 333 and Geography 333 *Weather – Fall 2014*

Instructor: Andrew Rice, 472 SRTC, arice@pdx.edu, 503-725-3095
Office Hours: Monday, Wednesday, 2-3, Thursday 3-4, and by appointment
Course D2L website: https://d2l.pdx.edu/

Course Description: Introductory course in the atmospheric environment providing a comprehensive understanding of atmospheric structure and the changes over time that result in the weather we experience. Topics include: atmospheric moisture (fog, rain, clouds), atmospheric stability and cloud development, air pressure and winds, air masses and fronts, and hurricanes and tornados.
University Studies Cluster: Global Environmental Change

Lectures: Monday, Wednesday, Friday 12:45-13:50 in 462 Neuberger Hall

Required Textbook: *Meteorology Today: An Introduction to Weather, Climate, and the Environment,* 10th Edition, by C. Donald Ahrens, Thomson Brooks Cole Publisher, 2012
note: *Essentials of Meteorology* and previous editions are acceptable but you may need to access a current version

Text on reserve: *Understanding Weather and Climate,* Aguado and Burt

Homework: Assigned on Wednesdays due the following Wednesday at the beginning of class. Working with other students is acceptable, but write up your assignments on your own. Late homework will be marked off 25% per day. The lowest homework will be dropped.

Weather Journal: Each Monday we will check the forecast for the week. Three times during the week, we will make observations and follow the forecast to note its accuracy. At the end of the term, your annotated forecasts and observations will be compiled and analyzed.

Exams: Exams are closed book and closed note. There will be no make-up exams.
Midterm: Friday, October 31, 12:45-13:50
Final: Monday, December 8, 12:30-14:20

Grading: Homework 30%; Weather Journal 20%; Midterm 20%; Final 30%

Extra Credit: Each Friday we will have a short 'news and views' section which will incorporate recent events or news. You are encouraged to participate by bringing in a weather or climate related news story during the quarter and share it with the class.

Academic Honesty: 'Academic honesty is a cornerstone of any meaningful education and a reflection of each student's maturity and integrity. The Code of Student Conduct and Responsibility, which applies to all students, prohibits all forms of academic cheating, fraud, and dishonesty. These acts include, but are not limited to: plagiarism, buying and selling of course assignments and research papers, performing academic assignments (including tests and examinations) for other persons, unauthorized disclosure and receipt of academic information, and other practices commonly understood to be academically dishonest.' – Portland State University Bulletin, General Catalog Issue, Vol. 47, 2013-2014.

Absence due to sickness – Due to concern about this year's flu season, if you are ill with flu-like symptoms please stay home for at least 24 hours after your fever is gone except to receive medical care. You will not be penalized for illness-related absences. If you will not be able to turn in an assignment or take and exam due to illness, please contact me via email or phone.

Tentative Schedule (subject to change)
Week 1
Chapter 1. The Earth's atmosphere, weather, and climate.
Chapter 2. Energy, heat transfer, and radiation.
Week 2
Chapter 2. Energy, heat transfer, and radiation.
Chapter 3. Seasons, temperatures, and controls.
Week 3
Chapter 4. Atmospheric moisture.
Chapter 5. Dew, frost, fog, and clouds.
Week 4
Chapter 6. Atmospheric stability and cloud development.
Chapter 7. Precipitation: rain, snow, hail.
Week 5
Chapter 8. Atmospheric pressure and winds.
MIDTERM – October 31
Week 6
Chapter 9. Small scale winds and systems.
Chapter 10. General (global scale) circulation.
Week 7
Chapter 11. Air masses and fronts.
Chapter 12. Mid-latitude cyclones.
Week 8
Chapter 14. Thunderstorms, tornadoes, and lightning.
Chapter 15. Hurricanes.
Week 9
Chapter 13. Forecasting weather.
Portland and Northwest weather
Week 10
Chapter 16. Global climate change.
Review Chapters 1-16

Important University Dates
University Closed *November 11, 27, 28*
Last day to drop with a 100% refund *October 5*
Last day to drop course *November 16*

Everybody talks about the weather, but nobody does anything about it
attributed to Mark Twain