

Physics 105 - Meteorology  
Summer 2008 Course Syllabus  
Linfield College - Portland Campus

This course satisfies 3 credits in the Natural World area of the Linfield College curriculum.

Class time: Wednesday nights, June 18 thru August 20  
6:00 PM - 9:30 PM in Peterson Hall  
and:: Saturday July 26, 2008; 9:00AM - 4:30PM; Field trip to NWS Office and KPTV

Text: Essentials of Meteorology, by C. Donald Ahrens, available in the Linfield (Portland) bookstore

Instructor: Robert Ewing

Office hours: by arrangement, but I will try and be available in the classroom from 5:00-6:00 PM Wednesdays

Telephone/email: 503-244-6111, ext. 3041 / bewing@pcc.edu

Welcome to the study of meteorology! We will study the composition and structure of our atmosphere; clouds and precipitation; air pressure and winds; air masses, fronts, and midlatitude cyclones, thunderstorms, tornadoes, and hurricanes; global climate and climate changes; and weather maps and forecasting.

Please attend all classes and hand in assignments on time. This is a short term! No make-up work. Sorry. Thank you in advance for being courteous to your fellow classmates (and me) and not disrupting the class in any manner. Please DO enter into class discussion and ask questions!

Your grade will be determined from the average % you score on the exams, homework/labs, and class participation. Generally, 90-100% = A; 80-90% = B; 70-80% = C, and below 70% = D or F. The Saturday session is important and will count 15% of your grade. Please do not miss it unless you have an emergency situation, and please contact me as soon as you can.

June 18: Atmospheric composition/structure, heat budget (Chapters 1-2)

June 25: Temperatures, humidity, and clouds (Chapters 3-4)

July 2: Precipitation, air pressure, winds (Chapters 5-6)

July 9: Atmospheric circulation and REVIEW (Chapter 7)

July 16: MIDTERM (chapters 1-7); then chapter 8, air masses and fronts

July 23: Thunderstorms, hurricanes, and tornadoes (Chapters 10-11)

SATURDAY JULY 26: FIELD TRIP

July 30: Weather maps and forecasting (Chapter 9)

August 6: Climates (Chapter 14)

August 13: Climate changes and air pollution (Chapters 12-13); REVIEW

August 20: FINAL EXAM (chapters 8-14)

Intended course outcomes:

1. Read and analyze articles in the newspaper/magazines relating to weather and climate (research) and be able to understand them.
2. Explain and compare the various types of weather systems: anticyclones, midlatitude cyclones, tropical cyclones, thunderstorms, hurricanes, and tornadoes.
3. Watch/listen to weather reports and be able to understand them.
4. Describe the practical effects of weather and forecasting on human activities now and in the past; and do the same for world climates in the past, present, and future.

About the instructor: I have taught math and science classes at Portland Community College from 1974 to the present, and also for Marylhurst University on occasion for the past couple of years. I have been teaching the summer science class here at Linfield for the past 13 years. I am an avid amateur astronomer and also on the board of directors for the group that runs the educational outreach and visitor's programs for the Pine Mountain Observatory in central Oregon. I also have been addicted to watching the Weather Channel on TV ! ☺

My B.S. degree is from Oregon State University, my M.S. degree is from Western Oregon University (then called Oregon College of Education), and I have studied at the University of Wisconsin, Madison as well.