

GEOG 321: Climatology



Course Announcement and Tentative Topics

Spring 2019, 2:00-3:20p M & W, 220 Chapman

Instructor: Patrick J. Bartlein, 154 Condon Hall, x6-4967, bartlein@uoregon.edu

Text: .pdfs on Canvas and materials from the web

Prerequisites: Geog 141, or consent of instructor.

Course web page: <http://canvas.uoregon.edu/>

Weather and climate page: <http://geog.uoregon.edu/weather/>

Supplemental materials page: <http://geog.uoregon.edu/courses/geog321/>

Grading: 100 pts. total. Two examinations (20 pts each, weeks 5 and finals week), four quizzes (5 pts each), plus completion of ten exercises that involve the analysis of information from the Internet that illustrates the day-to-day and seasonal variations of weather and climate (4 pts each, 40 pts total for the exercises).

Lecture topics

- Introduction—the climate system
- Composition and structure of the atmosphere
- Solar radiation
- Energy balance of the earth and atmosphere
- Atmospheric moisture
- Adiabatic processes, clouds and precipitation
- Atmospheric motion
- General circulation of the atmosphere
- Airmasses and fronts, Interannual climate variations
- Upper-level flow and surface-weather features
- Midlatitude cyclones and severe weather
- Tropical storms and hurricanes
- Air pollution and heat islands
- Climate history
- Future climates