

Department of Atmospheric Sciences

COURSE ANNOUNCEMENT – SEMESTER II – 2006–2007

ATMS 120E: Severe and Hazardous Weather

Call number: 44061

Instructor: Bob Rauber, 202 Atmospheric Science Bldg., 333-2835

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Room and Time: 213 Gregory Hall; 3:30 pm - 4:45 pm. MW

Credit: 3 hours

Prerequisites: None

Most extreme manifestations of weather and climate are analyzed in terms of their physical basis and their historical, economic and human consequences. Emphasis is placed on the interplay between technological advances, the evolution of meteorology as a science and the impacts of extreme weather (winter storms, floods, severe thunderstorms, hurricanes, El Niño). Technological advances include satellites, weather radars and profilers, and computer models used for weather prediction.

Course Content may include the following. Actual topics will be determined by students.

1. Overview of the atmosphere
2. Weather instrumentation: satellites, Doppler radar, and computer models
3. Hurricanes – impending coastal disasters
4. Fronts and cyclones
5. Severe thunderstorms: tornadoes, lightning, downbursts, floods and hail
6. Large-scale severe weather: Drought, heat wave, El Nino
7. Winter weather: blizzards, lake effect snow, ice storms, cold outbreaks and mountain snowstorms

Text: *Severe and Hazardous Weather*, by Robert Rauber, John Walsh and Donna Charlevoix, 2nd Edition, Kendall-Hunt, 2005 (required).

Active Learning Exercises for Severe and Hazardous Weather, by Robert Rauber, John Walsh and Donna Charlevoix, Kendall Hunt, 2005 (required).

*This course is approved for General Education credit in the category of
Natural Sciences and Technology: Physical Science*