

Department of Atmospheric Sciences

COURSE ANNOUNCEMENT – SEMESTER II – 2003–2004

ATMOS 120/Sec. B: Severe and Unusual Weather

Call number: 00791

Instructor: Donna Charlevoix, 218 Atmos. Sci. Bldg., 244-9575

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Room and Time: 314 Altgeld; 11:30–12:45 p.m. Tu Th

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, tornadoes). Technological advances include satellites, weather radars, and computer models used for weather prediction. Daily weather discussions will track severe weather events occurring during the course.

Course Content:

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

Text: *Severe and Hazardous Weather*, by Robert Rauber, John Walsh and Donna Charlevoix, 1st Edition, Kendall-Hunt, 2002 (required).

Active Learning Exercises for Severe and Hazardous Weather, by Robert Rauber, John Walsh and Donna Charlevoix, Kendall Hunt, 2003 (required).

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