

Department of Atmospheric Sciences

COURSE ANNOUNCEMENT – SEMESTER I – 2003–2004

ATMOS 120/Sec. C: Severe and Unusual Weather

Call number: 00867

Instructor: John Walsh, 204 Atmos. Sci. Bldg., 333-7521

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Room and Time: 314 Altgeld; 8:30–9:45 a.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, El Niño). Technological advances include satellites, weather radars and profilers, and computer models used for weather prediction.

Course Content:

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. Winter weather: blizzards, lake effect snow, ice storms, cold outbreaks and mountain snowstorms
7. Large-scale severe weather: Drought, heat waves, El Niño

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*