

*Department of Atmospheric Sciences*

COURSE ANNOUNCEMENT – SEMESTER II – 2006–2007

**ATMS 140: Climate and Global Change**

*Call number:* 30894

*Instructor:* Prof. Atul Jain, 215 Atmos. Sci. Bldg., 333-2128

*E-mail:* jain@atmos.uiuc.edu

*Room and Time:* 11:00 a.m. M W F

*Credit:* 3 hours

*Prerequisites:* A 100-level course in Atmospheric Sciences or Chemistry, or consent of instructor

This course covers the most significant environmental issues of our time, human modification of the atmosphere and the resulting effects on climate, on life and on our ability to sustain an ever-increasing human population. In particular, three major pollution issues will be discussed: Global Climate Change, Ozone Depletion, and Acid Rain. In each case the fundamental science as well as public policy issues will be addressed.

**Course Content:**

**I. Acid Rain**

Chemistry of Acid Formation and Deposition  
Acid Sources – Sulfates and Nitrogen Oxide  
Impacts of Acid Rain on the Environment  
Controlling Acid Rain

**II. Ozone Depletion**

Chemistry of Ozone Formation and Destruction  
Human Effects on Ozone  
Projections of Global Ozone Depletion  
Policy Responses

**III. Global Climate Change**

The Science of the Global Change  
Human Contribution to the Greenhouse  
Projections of Climate Change  
Global Climate Change Impacts and Mitigations  
Global Warming Debate and Policy Options

<http://isam.atmos.uiuc.edu/atmos140/>

**Text:** *Earth Under Siege: From Air Pollution to Global Change*, by R. P. Turco, Oxford University Press, 2002 (Required)

*Climate and Global Environmental Change*, by Danny Harvey, Prentice Hall. (Recommended)

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