

Department of Atmospheric Sciences

COURSE ANNOUNCEMENT – SEMESTER I – 2007 – 2008

ATMS 491: Topics in Atmospheric Science

O: Atmospheric Radiation

Call number: 49841

Instructor: Prof. Larry Di Girolamo, 112 Atmospheric Science Bldg., 333-3080

E-mail: larry@atmos.uiuc.edu

Room and Time: 109 Atmospheric Science Bldg.; 9:00 – 9:50 M W F

Credit: 3 hours

Prerequisites: Physics 212 and Math 242

Introduction to the laws governing the propagation of electromagnetic radiation in the Earth's atmosphere. Topics include absorption, emission, and scattering of radiation, absorption and scattering properties of atmospheric constituents, the Sun as a source of radiation, the radiative transfer equation, and simple radiative balance models. Emphasis will be placed on the role of radiation in weather and climate, the description of atmospheric optical phenomena, and the application to remote sensing.

Text: *A First Course in Atmospheric Radiation*, by Grant W. Petty, Sundog Publishing, 2nd Edition, 2006 (Required).