ATMS 501  Fundamentals of Physics and Chemistry of the Atmosphere

Syllabus


2. The Earth system. Overview of the oceans, the cryosphere, the terrestrial biosphere and the crust and mantle. The hydrologic cycle and the carbon cycle; the inventory of oxygen. A brief overview of the history of the Earth, with emphasis on climate.


7. Atmospheric chemistry. Important tropospheric trace gases and aerosols, with emphasis on their sources and sinks, residence times, chemical transformations, and transport. Role of reaction rates in determining equilibrium concentrations. Urban and regional air pollution. The nitrogen, and sulfur cycles. Stratospheric chemistry with emphasis on the ozone layer.


Class Format  Daily lectures/ discussions. Assigned homework problems. Weekly hour quizzes (Fridays) based on material discussed in class that week. Final exam. Course grade based 60% on cumulative point score on weekly quizzes and 40% on final exam.

Textbook  

Textbook Companion Website:  
http://books.elsevier.com/companions/defaultindividual.asp?isbn=9780127329512

Contains answers to most of the exercises and supplementary materials such as the skew T ln p chart.