

## ENVIRONMENTAL CHEMISTRY 11:375:202

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**Pre-Requisite:** General Chemistry 01:160:160, 01:160:162, or 01:160:163

**Text:** Environmental Chemistry, 5th Edition (Baird and Cann, 2012, ISBN 978-1429277044), available through the Rutgers Bookstore

**Course overview:** Introduction to chemical processes in Earth's atmosphere and natural waters, and their modification by human activity.

### Learning goals:

1. Apply knowledge, skills and techniques from the sciences and mathematics to identify, characterize and provide solutions for environmental problems
2. Communicate technical information effectively
3. Function effectively on teams to accomplish collaborative tasks

### Topics covered:

Physical structure of the atmosphere  
Solar radiation and the thermal structure of the atmosphere  
Reactions of oxygen in the stratosphere and steady-state kinetics  
Anthropogenic ozone depletion  
Tropospheric chemistry  
Photochemical smog  
Sulfur oxidation in the atmosphere  
Atmospheric particles  
Chemical composition of natural waters  
Acidification and recovery  
Dissolved oxygen and oxidation-reduction potential of natural waters  
Organic contaminants in the environment