

# CE 589

## Atmospheric Chemistry and Physical Processes

### Spring 2009

**Instructor:** Dr. Tom Jobson, 302 Dana Hall, email: [tjobson@wsu.edu](mailto:tjobson@wsu.edu)

**Class:** Sloan 213, Monday and Wednesday 9:10 – 10:30

**Office Hours:** anytime

**Textbook:** Barbara J Finlayson-Pitts, *Chemistry of the Upper and Lower Atmosphere*,

#### Class Goals and Objectives

The main objective is to become familiar with the major physical and chemical processes of the stratosphere and troposphere and the chemistry of the natural and polluted atmosphere. The course will follow the subject matter listed below and will be supplemented by class notes, reading material from textbook, and papers. The topics covered with approximate time are:

Week	Subject
1	Composition, Structure and Pressure
2	Atmospheric Transport & Simple Models
3	Origin of the Atmosphere & Biogeochemical Cycles
4	Solar Radiation & Photophysical Processes
5	Photolysis Rates
6	Gas Phase Chemistry and Reaction Kinetics
7	Stratospheric Chemistry & the Ozone Hole
8	Tropospheric Chemistry
11	Ozone Air Pollution
13	Acid Rain and Aqueous Chemistry
14	Marine Boundary Layer & Halogen Chemistry
15	Impact of Climate Change on Atmospheric Chemistry
16	Field Research Instrumentation

#### Class Structure

Please attend all lectures. Much of the information conveyed in the course is from lectures and is not necessarily going to be available in the book. You are expected to complete the reading assignments prior to class. You will be responsible for understanding the materials covered in the reading assignments, class handouts, lectures, and homework assignments.

#### Grading

Class Participation: 10%

Assignments: 35% {~5 assignments}

Project: 15%

Oral Exams: 40% {Finals week}