

ATS621, Fall 2017
Atmospheric Chemistry
Tuesday and Thursday, 10 – 10:50, ATSW 121

Instructor: Prof. Emily Fischer
Atmospheric Science Bldg., Room 203
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Teaching Assistant: Kate O'Dell
Atmospheric Science Bldg., Room 218
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Student learning goals: 1) Understand quantitatively how emissions, transport, chemistry and deposition impact atmospheric chemical composition; 2) Explain the chemical and physical mechanisms behind ozone depletion, air pollution and acid rain from the molecular to global scales; 3) Develop skills needed for further specialized study on atmospheric composition relative to air pollution and climate change.

Emily's Office Hours: Tuesday 2:00-3:00 and Thursday 2:00-3:00

Kate's Office Hours: Monday 1:00 – 2:00 and Wednesday 1:00 – 2:00

Required / Primary Texts:

Introduction to Atmospheric Chemistry, **D.J. Jacob** Princeton University Press, 1999

PDF versions of the chapters can be obtained here: <http://acmg.seas.harvard.edu/people/faculty/djj/book/>

Atmospheric Chemistry and Physics, **Seinfeld and Pandis**, Wiley-Interscience, 2006.

Corresponding readings are listed on the syllabus, and an online version can be obtained through the CSU library: <https://lib.colostate.edu/>

Course Materials: There is a CSU Canvas site for this class. All course materials will be posted there.

Other Helpful Atmospheric Chemistry Texts:

1. *Chemistry of the Upper and Lower Atmosphere*, **Finlayson-Pitts and Pitts**, Academic

2. *Introduction to Atmospheric Chemistry*, **P.V. Hobbs** Cambridge University Press

3. *Physical Chemistry for the Atmospheric Sciences* **P.V. Hobbs** Ibid.

Course Structure and Grading:

Periodic homework is assigned and is due at the start of the class indicated. No late homework assignments will be accepted without prior approval. Incorrect answers on homework assignments can be resubmitted for the opportunity to earn back 50% of the points subtracted during the first grading, but the corrected homework assignments must be returned to the TA by the start of the following class. There will be two exams. Exams are closed book and closed notes. Each student will prepare and deliver an oral presentation on a topic of their choice, related to the course material.

Grades are weighted as follows:

Homework: 30%

Exam 1: 25%

Exam 2: 25%

Project: 20%

Each student is encouraged to develop his/her own project topic idea. Topics must deal with some aspect of atmospheric chemistry. Project proposals are due in October and will be reviewed by the instructor to ensure project criteria are met. Students will make oral presentations of their project near the end of the semester. Further guidelines and grading criteria will be distributed.

Statement on Academic Integrity

This course will adhere to the CSU Academic Integrity Policy as found in the General Catalog (<http://www.catalog.colostate.edu/FrontPDF/1.6POLICIES1112f.pdf>) and the Student Conduct Code (<http://www.conflictresolution.colostate.edu/conduct-code>). At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services.

Contact Hours: 2 (At least 2 hours of effort are expected to complete homework assignments outside of class for each hour of class time.)