

CHEM 4800
Atmospheric Chemistry
Winter, 2026
Course Outline
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Lectures Mondays and Wednesdays from 1:00 – 2:30 PM. Please check Carleton Central for the location.

Four Written Assignments: 10% each
Midterm Test 20%
Final Exam 40%

No textbook is prescribed, or needed in my opinion. But if you feel you need one, there are many in the library, and there is a lot of good information on the internet. Use the keywords “atmospheric” and “chemistry.” The best book out there is by Seinfeld and Pandis: “Atmospheric Chemistry and Physics.”

Syllabus

1. Introductory Notes
2. Physical Models of the Atmosphere
3. Cycles
4. The Earth’s Radiation Budget
5. Chemical Kinetics
6. Atmospheric Photochemistry
7. Ozone in the Stratosphere
8. Background Chemistry of the Troposphere
9. Oxidants in the Earth’s Atmosphere
10. Air Pollution
11. Photochemical Smog
12. Atmospheric Warming
13. Acid Rain
14. Ions in the Atmosphere
15. Aerosols in the Atmosphere
16. Other Atmospheres