<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tu 13 Jan</td>
<td>Introduction</td>
<td>Seinfeld and Pandis below</td>
</tr>
<tr>
<td>Th 15 Jan</td>
<td>Atmos. Structure and Circulation</td>
<td>pp 1-23 (scan 766-775)</td>
</tr>
<tr>
<td>Tu 20 Jan</td>
<td>Radiation and Energy Balance</td>
<td>pp 23-43</td>
</tr>
<tr>
<td>Th 22 Jan</td>
<td>Atmos. Composition, S &amp; N Cycles</td>
<td>pp 49-75</td>
</tr>
<tr>
<td>Tu 27 Jan</td>
<td>Atmos. Composition, C, X, and O₃</td>
<td>pp 75-97</td>
</tr>
<tr>
<td>Th 29 Jan</td>
<td>Aerosols &amp; Regulations</td>
<td>pp 97-108</td>
</tr>
<tr>
<td>Tu 3 Feb</td>
<td>Photochemistry</td>
<td>pp 125-134 and 140-152</td>
</tr>
<tr>
<td>Th 5 Feb</td>
<td>Chemical Kinetics</td>
<td>pp 152-160</td>
</tr>
<tr>
<td>Tu 10 Feb</td>
<td>Chem of the Strat, HOx, NOx, and ClOx</td>
<td>pp 163-184</td>
</tr>
<tr>
<td>Th 12 Feb</td>
<td>Chem of the Stratosphere, Ozone Holes</td>
<td>pp 189-203, 215-219</td>
</tr>
<tr>
<td>Tu 17 Feb</td>
<td>Chem of the Troposphere, NOx, CO, O₃</td>
<td>pp 235-249 (skip Ex.5.1)</td>
</tr>
<tr>
<td>Th 19 Feb</td>
<td>Chemistry of the Troposphere, OH, NO₃, O₃</td>
<td>pp 250-263</td>
</tr>
<tr>
<td>Tu 24 Feb</td>
<td>Chem of the Troposphere, Smog, Red N</td>
<td>pp 292-302, 313</td>
</tr>
<tr>
<td>Th 26 Feb</td>
<td>Chem of the Troposphere, S, X</td>
<td>pp 314-320</td>
</tr>
<tr>
<td>Tu 3 Mar</td>
<td>Catch up and Review</td>
<td></td>
</tr>
<tr>
<td>Th 5 Mar</td>
<td>Mid-Term Exam</td>
<td></td>
</tr>
<tr>
<td>Tu 10 Mar</td>
<td>Atmospheric Aerosol, Ambient Distributions</td>
<td>(scan pp 408-429)</td>
</tr>
<tr>
<td>Th 12 Mar</td>
<td>Dynamics of Single Particles</td>
<td>pp 429-446</td>
</tr>
<tr>
<td>Tu 17 Mar</td>
<td>Dry Deposition</td>
<td>Huebert &amp; Robert</td>
</tr>
<tr>
<td>Th 19 Mar</td>
<td>Dry Deposition</td>
<td>pp 958-971 and 977-982</td>
</tr>
<tr>
<td>23-27 Mar</td>
<td>SPRING BREAK</td>
<td></td>
</tr>
<tr>
<td>Tu 31 Mar</td>
<td>Wet Deposition</td>
<td>pp 997-1002, 1027-1044</td>
</tr>
<tr>
<td>Th 2 Apr</td>
<td>Acid Deposition</td>
<td>pp 1045-1056</td>
</tr>
<tr>
<td>Tu 7 Apr</td>
<td>Atmospheric Chemistry and Climate</td>
<td>pp 1075-1092</td>
</tr>
<tr>
<td>Th 9 Apr</td>
<td>Light Scattering and Absorption, Visibility</td>
<td>pp 1113-1131</td>
</tr>
<tr>
<td>Tu 14 Apr</td>
<td>Direct Effect of Aerosols on Climate</td>
<td>pp 1139-1147, 1154-1169</td>
</tr>
<tr>
<td>Th 16 Apr</td>
<td>Indirect Effect of Aerosols on climate</td>
<td>pp 1170-1184</td>
</tr>
<tr>
<td>Tu 21 Apr</td>
<td>OC Aerosol Measurements</td>
<td>Lewtas et al</td>
</tr>
<tr>
<td>Th 23 Apr</td>
<td>Marine Aerosols</td>
<td>Quinn et al</td>
</tr>
<tr>
<td>Tu 28 Apr</td>
<td>Air-Sea Exchange</td>
<td>McGillis et al</td>
</tr>
<tr>
<td>Th 30 Apr</td>
<td>Sulfur Modeling</td>
<td>Qian et al</td>
</tr>
<tr>
<td>Tu 5 May</td>
<td>Dust and Climate</td>
<td>Sokolik and Toon</td>
</tr>
<tr>
<td>Th 7 May</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>Th 11-15 May</td>
<td>Final Exam</td>
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**Assigned literature:**


**Content:** This class is a survey of the principles of atmospheric chemistry, with a focus on the unpolluted marine atmosphere. It is designed to be accessible to students with a wide variety of backgrounds, so that any Oceanography grad student would have a suitable background to take the course and would (hopefully) find its material useful in other fields. Topics include atmospheric structure, dynamics and transport, photochemical kinetics and atmospheric reactions, aerosols (formation, processing, and removal), wet and dry deposition, acid rain, cloud chemistry, the impact of atmospheric chemistry on climate change, and stratospheric ozone depletion.

**Readings:** The assigned readings will initially be from the class text, Seinfeld and Pandis, *Atmospheric Chemistry and Physics*, Wiley-Interscience, 1998. [If you have the newer version we’ll need to adjust some pages in assignments.] A few published papers will be collected into a xeroxed set for discussion the last few weeks of the course. We’ll flip a coin for who will lead the discussion of each one, so you should come well prepared. The idea is to be critical of what you read and to convey the certainty (or lack thereof) in each topic area. What do we know, now that this paper is published, and what is still uncertain?

Class will be in a discussion format, starting with asking you what was significant in the day’s reading. This will lead into highlighting the main points from the reading. However, the book is clear and complete enough that it will not be necessary to have formal lectures for most of the material, although sometimes it will happen like that. The participation grade (one point available for each class period, two during the literature discussions) will be based on evidence that you have read the material before class and made an attempt to comprehend its significance.
Grading will be based on:
Class Participation (38%),
Assigned Homework Problems (20%),
Mid-Term Exam (21%) and
Final Exam (21%).

Homework will be assigned each week, mostly from problems at the end of each chapter. It will be due by noon each Monday, so that it can (hopefully) be returned graded at class time the next day. There will be 10 assignments, each of which will be worth two points. The exams will draw heavily on problems from the homework assignments.

Student Learning Outcomes
1) a strong working knowledge of the sources, sinks, transport, and transformations of chemicals in the marine atmosphere.

2) familiarity with important topical issues in atmospheric chemistry, including stratospheric ozone loss, acid deposition, and climate change.

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