Syllabus for Organic Chemistry CHEM 220

Summer 2019

Important Notice Regarding O-Chem Lab:
O-Chem Lab is a separate course, with its own unique course number, syllabus and cost. Students are not required to take lab with the lecture course. For more info: see YSS CHEM 222L

Lectures
M, T, W, T, F: 9:30-10:45 a.m.       ROOM: 160 SCL
Discussion Sections
M, W, F: 11:00 a.m. -noon           ROOM: 160 SCL

SCL = Sterling Chemistry Lab at 225, Prospect Street

Instructor
Christine DiMeglio, Ph.D., christine.dimeglio@yale.edu
Office 213 Sterling Chemistry Lab
Office hours daily after lecture

Teaching Assistant
Jenny Martinez, Ph.D., jenny.martinez@yale.edu
Office hours daily after lecture

Required Materials

Suggested Materials
A) Organic molecular modeling kits at amazon.com for inexpensive options (by Mega Molecules as an example);

Lecture Schedule
<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Textbook Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 27*</td>
<td>Lewis Structures, Electronegativity</td>
<td>1A, B (*double lecture, no discussion)</td>
</tr>
<tr>
<td></td>
<td>Bond Polarity, Resonance, Bonding Theories</td>
<td></td>
</tr>
<tr>
<td>May 28</td>
<td>Alkanes</td>
<td>2A</td>
</tr>
<tr>
<td>May 29</td>
<td>Alkanes/Acids and Bases</td>
<td>2B, 3A</td>
</tr>
<tr>
<td>May 30</td>
<td>Acids and Bases</td>
<td>3B</td>
</tr>
<tr>
<td>May 31</td>
<td>Alkenes, Alkynes</td>
<td>4A, CH14 (selected topics)</td>
</tr>
<tr>
<td>June 3</td>
<td>4A cont. and transition states</td>
<td></td>
</tr>
<tr>
<td>June 4</td>
<td>Addition Reactions of Alkenes and Alkynes</td>
<td>5A, CH14 (selected topics)</td>
</tr>
<tr>
<td>June 5</td>
<td>continued from previous lecture</td>
<td>5B, CH 14 (selected topics)</td>
</tr>
<tr>
<td>June 6</td>
<td>Exam 1: CH 1-5A and 14 selected topics</td>
<td>(tentative; specific topics TBA)</td>
</tr>
<tr>
<td>June 7</td>
<td>Stereochemistry, Stereoisomer, R/S</td>
<td>6A</td>
</tr>
<tr>
<td>June 10</td>
<td>6A cont. and EE and Inversion</td>
<td>6B</td>
</tr>
<tr>
<td>June 11</td>
<td>Cyclic Compounds and Stereochemistry</td>
<td>7A</td>
</tr>
<tr>
<td>June 12</td>
<td>Stereochemistry of Reactions</td>
<td>7B</td>
</tr>
<tr>
<td>June 13</td>
<td>Intermolecular Interactions</td>
<td>8</td>
</tr>
<tr>
<td>June 14</td>
<td>Alkyl Halides and SN2</td>
<td>9A</td>
</tr>
</tbody>
</table>
Prerequisites
General Chemistry Lecture I and II or placement by DUS into organic chemistry

Exam 1 (25%) and Exam 2 (25%) will each be 1 hour, beginning at 9:30 a.m. on their scheduled day.

Exam 3 (40%) will be 2 hours, beginning at 9:30 am on its scheduled day.

Participation (10%)
Students earn participation points based on attendance and entries into a problem-solving journal. If you are more than 15 minutes late, you do not get the participation points.

Letter Grades
Scenario 1: Exam 1 (25%) + Exam 2 (25%) + Exam 3 (40%) + Participation (10%)

Scenario 2: Students may drop their lower exam score from Exam 1 or Exam 2 if this improves their letter grade, in which case letter grades are calculated as Exam (35%) + Exam 3 (55%) + participation (10%)

Policy regarding attendance: Attendance is mandatory, per summer school policy.

Policy regarding missed Exam 1 or Exam 2: Students who miss Exam 1 or Exam 2 drop the missed exam; the letter grade will be calculated according to Scenario 2.

Midterm assessment: Students are required to keep a homework notebook, which will be used along with the problem-solving journal to provide midterm feedback to any student missing Exam 1, and ongoing feedback to all students requesting additional assessment.

Academic Integrity:
Students can use any resources they choose, anytime they choose, except on Exams. On exams, students must work independently without other people, texts, notes, electronic helps, etc.

Useful websites
http://www.chem.wisc.edu/areas/organic/index-chem.htm
http://www.organic-chemistry.org/
http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/intro1.htm (some practice problems with answers)
http://www.departments.bucknell.edu/chemistry/courses/chem211/problem_sets/ (practice problems with answers for org. chem I)
https://legacyweb.chemistry.ohio-state.edu/flashcards/ (organic chemistry flash cards)
http://evans.harvard.edu/cgi-bin/problems/search2a_selectKeywords.cgi (challenging problems in organic chemistry)