Chemistry 25a Organic Chemistry I
Summer 2019 Syllabus
Brandeis University

Lecturer
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Course description
Organic chemistry is a fascinating area of science that focuses on the study of carbon-containing compounds, and is relevant to biological systems, medicine, environmental science, and industry. Chem 25a is the first module of a two-semester course that introduces fundamental topics such as structure, function and reactivity of organic molecules. In this course we will explore how and why organic reactions occur. Applications of organic chemistry in biological systems and industry will be emphasized using current and classic literature examples.
This course meets the first half of the organic chemistry requirement for chemistry, biology, premedical, and pre-dental majors when taken in conjunction with the laboratory course CHEM 29A.
Prerequisite: A satisfactory grade (C- or better) in Chem 11b or Chem 15b or the equivalent.

Learning goals and objectives
In CHEM 25A, emphasis is placed on understanding fundamental concepts and applying to problems, rather than memorizing large volumes of material. You will develop problem-solving skills and learn how to think logically through questions to derive an answer. Your greatest benefit in learning the material will come from practicing many problems continually. By the end of this course, you should:
1) Understand the structures and notations of organic compounds.
2) Know how to write reasonable reaction mechanisms.
3) Be familiar with the reactivity of certain functional groups.

Class times and office hours
Lectures: Mon, Tues, Thurs, Fri 8:30 – 11:00 am.
Office hours: Mon, Tues, Thurs, Fri 11:00 am – 12:00 pm in SSC 00-08B.
Examinations and quizzes will be given during lecture times.

Required materials
- Molecular Model Kit: Darling organic and inorganic molecular models ISBN 978-09648837-1-0 (or any other organic chemistry model kit)
- Course handouts and supplemental material will be available on LATTE, the online course website at Brandeis.
If you are having difficulty purchasing course materials, please make an appointment with your Student Financial Services or Academic Services advisor to discuss possible funding options and/or textbook alternatives.

Course expectations

- Succeeding in organic chemistry requires dedication and diligence – a reasonable expectation is that you will expend at least three hours of out-of-class effort for every hour of classroom instruction.
- Lecture attendance is mandatory! Class attendance will be taken, and absences are reported to the Summer School Office.

Course assessment

Grades will be distributed as follows:
- Four quizzes 20%
- Two examinations 40%
- Final examination (cumulative) 40%

Course grades will be determined based on the class average (typically set between a B or B-) and student distributions around the average.

Examinations and quizzes

Quizzes will be held during lecture times on the following dates:
- Quiz 1: Friday, June 7
- Quiz 2: Friday, June 14
- Quiz 3: Friday, June 21
- Quiz 4: Monday, July 1

Examinations will be held during lecture times on the following dates:
- Exam 1: Monday, June 17
- Exam 2: Friday, June 28

Final Exam: Summer Session I final exam period is July 2 – 3. The CHEM 25A final exam is scheduled for Tuesday, July 2, 9:00am – 12:00pm.

Makeup exams and quizzes

- There will be NO makeup examinations or quizzes.
- If you arrive late to an exam or quiz, no additional time will be given.
- If you miss an exam or quiz with a documented medical excuse, your grade will be based on the average of the other 3 quizzes and/or 1 exam and the final.

Regrades

You may request that an exam or quiz be regraded if you suspect errors in grading. The graded document, along with a note explaining the nature of the grading dispute, must be submitted to Prof. Mascall no later than two days after the graded document is returned. Please note that the entire document will be regraded. A grade may either go up, go down, or stay the same after a regrade.
Homework
You are expected to be reading the chapter before or while we cover it. Practice problems from the textbook will be suggested for each chapter, with the answers available in the solutions manual. Homework will not be collected or graded; it is in your best interest to practice as many questions as possible.

Use of electronics
The use of cellular phones and laptops during lectures and exams is prohibited. The use of tablets is allowed during lectures for taking notes, but is prohibited during exams and quizzes. If you require special accommodations for electronic use not addressed above, please see me.

Academic accommodations
Brandeis seeks to welcome and include all students. If you are a student who needs accommodations as outlined in an accommodations letter, please talk with me and present your letter of accommodation as soon as you can. I want to support you. In order to provide test accommodations, I need the letter more than 48 hours in advance. I want to provide your accommodations, but cannot do so retroactively. If you have questions about documenting a disability or requesting accommodations, please contact Student Accessibility Support (SAS) at 781.736.3470 or access@brandeis.edu.

Academic Integrity
You are expected to be familiar with, and to follow, the University’s policies on academic integrity. Please consult the Brandeis University Handbook on Rights and Responsibilities for all policies and procedures (pay particular attention to section 4). All policies related to academic integrity apply to in-class and take home assignments, exams and quizzes. Any work submitted by a student for academic credit will be the student’s own work. Students may only collaborate on assignments with permission from the instructor. Allegations of alleged academic dishonesty will be reported to the Brandeis Student Rights and Community Standards Office. A first offense may result in zero assignment credit for all involved, and a repeat offense may result in suspension or dismissal from the University.

Tips for success!
✓ Approach the subject with an open mind.
✓ Attend ALL lectures.
✓ Practice, practice, practice!
✓ Be consistent and persistent in studying – proficiency in organic chemistry is developed through frequent practice and review of the material. Plan to dedicate some time each day to the subject.
✓ Use all available resources: instructor’s office hours, textbook, lecture notes, supplemental online material.
✓ Utilize study groups if that is an effective strategy for you.
Course schedule
Summer session I runs from June 3 – July 3. Lectures are held on Mondays, Tuesdays, Thursdays, and Fridays each week (except for week 5) according to the schedule below. The list of lecture topics is designed to give you an idea of the order and timeline of coverage of course material. This list is subject to change and will be dependent somewhat on student response. Less time will be spent on topics that are well understood by the class, and more time will be spent on topics that the class is struggling with.

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<th>Week #</th>
<th>Lecture schedule</th>
<th>Lecture topics</th>
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<td><strong>Week 1</strong></td>
<td>Monday, June 3: Lecture 1</td>
<td>Ch. 1: Chemical bonding and chemical structure</td>
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<td>Tuesday, June 4: Lecture 2</td>
<td>Ch. 2: Alkanes</td>
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<td>Thursday, June 6: Lecture 3</td>
<td>Ch. 7.1 – 7.6: Cycloalkanes</td>
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<td>Friday, June 7: <strong>QUIZ 1</strong>, Lecture 4</td>
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<td><strong>Week 2</strong></td>
<td>Monday, June 10: Lecture 5</td>
<td>Ch. 3: Acids and bases</td>
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<td>Tuesday, June 11: Lecture 6</td>
<td>Ch. 4: Introduction to alkenes</td>
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<td>Thursday, June 13: Lecture 7</td>
<td>Ch. 5: Addition reactions of alkenes</td>
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<td>Friday, June 14: <strong>QUIZ 2</strong>, Lecture 8</td>
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<td><strong>Week 3</strong></td>
<td>Monday, June 17: Lecture 9, <strong>EXAM 1</strong></td>
<td>Ch. 5: Addition reactions of alkenes</td>
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<td>Tuesday, June 18: Lecture 10</td>
<td>Ch. 6: Principles of stereochemistry</td>
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<td>Thursday, June 20: Lecture 11</td>
<td>Ch. 7.7 – 7.9: Stereochemistry of chemical reactions</td>
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<td>Friday, June 21: <strong>QUIZ 3</strong>, Lecture 12</td>
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<td><strong>Week 4</strong></td>
<td>Monday, June 24: Lecture 13</td>
<td>Ch. 14: Chemistry of alkynes</td>
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<td>Tuesday, June 25: Lecture 14</td>
<td>Ch. 9: Chemistry of alkyl halides</td>
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<td>Thursday, June 27: Lecture 15</td>
<td>Ch. 10: Chemistry of alcohols and thiols</td>
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<td>Friday, June 28: Lecture 16, <strong>EXAM 2</strong></td>
<td>Ch. 11: Chemistry of ethers and epoxides</td>
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<td><strong>Week 5</strong></td>
<td>Monday, July 1: <strong>QUIZ 4</strong>, Lecture 17</td>
<td>Ch. 11: Chemistry of ethers and epoxides</td>
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<td>Tuesday, July 2: <strong>FINAL EXAM</strong> (9:00am – 12:00pm)</td>
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