

Chemistry 25b Organic Chemistry II

Summer 2018 Syllabus

Brandeis University

Lecturer

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Course description

CHEM 25B is a continuation of CHEM 25A. This course meets the second half of the organic chemistry requirement for chemistry, biology, premedical, and pre-dental majors when taken in conjunction with the laboratory course CHEM 29B. The course will build upon concepts of structure and reactivity from CHEM 25A. Much emphasis will be placed on the chemistry of carbonyl compounds, and other biologically relevant molecules such as carbohydrates. Organic compounds of chemical, medicinal, and biological interest will be examined through current literature examples.

Prerequisite: A satisfactory grade (C- or better) in CHEM 25A or the equivalent.

Learning goals and objectives

In CHEM 25B emphasis is placed on understanding fundamental concepts and applying to problems, rather than memorizing. You will learn how basic concepts connect diverse chemical reactions and develop confidence in understanding and analyzing problems. You will also learn the relevance of organic chemistry to biological systems, medicine, environmental science, and industry.

Class times and office hours

Lectures: Mon, Tues, Thurs, Fri 8:30 – 10:50 am.

Office hours: Mon, Tues, Thurs, Fri 11:00 am – 12:00 pm in SSC 00-08B.

Examinations and quizzes will be given during lectures.

Required materials

- *Organic Chemistry, 6th ed.* by Marc Loudon and Jim Parise, Roberts & Company, 2016. ISBN 978-1-936221-34-9, and accompanying *Study guide and solutions manual*.
- 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.

Academic credit

Grades will be distributed as follows:

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| – Four quizzes | 20% |
| – Two examinations | 40% |
| – Final examination (cumulative) | 40% |

Course grades will be determined based on the class average and student distributions around the average.

Examinations and quizzes

Examinations and quizzes will be held during lecture times.

- Quizzes will be given every Friday (July 13th, 20th, 27th, August 3rd)
- Exam 1: Monday July 23rd; Exam 2: Monday August 6th.
- Final exam: Summer Session II final exam period is August 9 – 10. The CHEM 25B final exam date and time will be set by the Summer School Office. *Do not make travel plans until this date is finalized.*

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 Dr. Mascall *no later than two days after the graded document is returned*. Please note that the entire document will be regraded.

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.

Disabilities

If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please present your letter of accommodation to Dr. Mascall as soon as possible. Please note that accommodations cannot be granted retroactively.

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.

Course schedule

	Mon	Tues	Wed	Thurs	Fri	Tentative topics*
July	9	10	11	12	13	Ch. 15: Dienes, resonance, aromaticity Ch. 16: Chemistry of benzene and its derivatives
	Lec 1	Lec 2		Lec 3	Quiz 1 Lec 4	
	16	17	18	19	20	Ch. 17: Allylic and benzylic reactivity Ch. 19: Chemistry of aldehydes and ketones
	Lec 5	Lec 6		Lec 7	Quiz 2 Lec 8	
	23	24	25	26	27	Ch. 20: Chemistry of carboxylic acids Ch. 21: Chemistry of carboxylic acid derivatives
Exam 1 Lec 9	Lec 10		Lec 11	Quiz 3 Lec 12		
30	31	1	2	3	Ch. 22: Chemistry of enolate ions, enols, α,β -unsaturated carbonyl compounds Ch. 23: Chemistry of amines	
Lec 13	Lec 14		Lec 15	Quiz 4 Lec 16		
Aug	6	7	8	9	10	Ch. 24: Carbohydrates
	Exam 2 Lec 17	Lec 18		Summer Session II Final exam period		

**The tentative topics list 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.*