

Learning objectives

- Students will learn and understand concepts of organic molecules, which include nomenclatures, structures, properties, characterizations, reactions and major mechanisms.
- Students will develop the ability of predicting the results of reactions, identifying principles that correlate the structure and properties of organic compounds.
- Students will learn and be able to apply the concept and strategy of organic synthesis.
- Students will leave with a better appreciation of the logic of creative sciences.

Instructor: Hanbin Li

Email: hanbin.li@csi.cuny.edu

Office: 6S-218

Office hours: 1 – 5 PM on lecture day by appointment.

Lecture

Time: 8:20 – 11:50 AM on Mon, Tue, Wed and Thu (first class: May 31st, final class: June 27th)

Classroom: Building 3S, Room 118; Office: Building 6S, Room 218

Texts

Organic Chemistry 10th Edition, by F. Carey, ISBN# 978-0073511214.

Solutions Manual for Organic Chemistry, by F. Carey, 10th Edition, ISBN# 978-1259636387

Exams and Quizzes

There will be four exams given at the regular class hours. The exams count 80% of the lecture grade. No makeup exams will be given. The tentative exam dates are:

1st exam: Tue, 6/7 2nd exam: Tue, 6/14 3rd exam: Tue, 6/21 4th exam: Mon, 6/27

There will be **two** regular short quizzes each class, excluding the first class and those days when an exam is scheduled. One quiz will be given at the beginning and the other at the end of each class. The quizzes are usually in the form of two or three multiple choices questions. The regular quizzes count 20% of the lecture grade. All quizzes must be answered on-line using an internet-capable device (smart phone/tablet/computer). A Blackboard account is needed. A student must be in the classroom at the time of taking a quiz. Paper quizzes are not accepted, except with the express permission of the instructor. *If you experience a technical difficulty (such as not being able to log in, your device freezes, etc.) when taking a quiz, you should **immediately** notify your instructor so that you can be excused.* No makeup exams, quizzes or labs will be given.

Homework

Timely completion of homework assignments is strongly recommended. Although homework assignments will not be collected, some homework problems will appear in exams (could be in a modified form).

Attendance Policy

A student who is absent in excess of 15% of the class hour (6 hours for CHM 250) in the semester is assigned a grade of WU (withdraw unofficially).

Academic Honesty

You must work independently on your quiz or exam. Students who receive or give any help during a quiz or examination are considered cheating and will automatically receive a grade of F for the course. Note that taking a quiz out of the classroom is considered cheating. The following exam rules apply in CHM 250:

1. No student is permitted to use anything other than the distributed test sheets and pens/pencils, except with the express permission of the instructor.
2. All electronic devices (including but not limited to: cellular phones, smart watches, laptop and tablet computers) must remain powered off during an exam. A student is considered cheating if he/she is found with an electronic device powered on during an exam.
3. No one is allowed to leave the classroom during an exam.
4. A student can submit his/her test 30 minutes after an exam officially starts.
5. A student will not be allowed to take an exam if he/she is late for 30 minutes or more. The student will receive a zero on the exam.
6. All students must sign the exam sign-out sheet after completing an exam.
7. All students must submit the signature page, with their names printed, signed and dated to the instructor before taking the first exam.

Grading Policy

The final grade in the course will be based on performance in both the lecture and laboratory. The lecture will count 75% and the laboratory will count 25%.

The grading policy in the laboratory section will be explained by your laboratory instructor.

Your letter grade of the course will be assigned based on your overall course score (rounded to a whole number) according to the following cutlines:

| Course Score | Letter Grade | Course Score | Letter Grade |
|--------------|--------------|--------------|--------------|
| 90+ | A | 65-69 | C+ |
| 85-89 | A- | 60-64 | C |
| 80-84 | B+ | 55-59 | D |
| 75-79 | B | 0-54 | F |
| 70-74 | B- | | |

Course Schedule

The following is a tentative outline of the lecture schedule for CHM 250. It is strongly recommended to read the corresponding part of the textbook before a class to prepare. Since every later chapter is built upon the foundation of earlier chapters, it is imperative to get a good start and not fall behind at the beginning.

| Date | Topics | Contents |
|------------------|---|----------------------|
| 5/31, 6/1 | Structure Determines Properties | Chapter 1 |
| 6/1, 6/2 | Alkanes and Cycloalkanes: Introduction to Hydrocarbons | Chapter 2 |
| 6/2, 6/6 | Alkanes and Cycloalkanes: Conformations and cis-trans Stereoisomers | Chapter 3 |
| 6/6, 6/7 | Chirality | Chapter 4 |
| 6/7 | Exam 1 (Chapter 1, 2, 3) | Chapter 1-3 |
| 6/7, 6/8 | Alcohols and Alkyl Halides: Introduction to Reaction Mechanisms | Chapter 5 |
| 6/9, 6/13 | Nucleophilic Substitution | Chapter 6 |
| 6/13, 6/14 | Structure and Preparation of Alkenes: Elimination Reactions | Chapter 7 |
| 6/14 | Exam 2 (Chapter 4, 5, 6) | Chapter 4-6 |
| 6/14, 6/15, 6/16 | Addition Reactions of Alkenes | Chapter 8 |
| 6/16 | Alkynes | Chapter 9 |
| 6/21 | Exam 3 (Chapter 7, 8, 9) | Chapter 7-9 |
| 6/21 | Introduction to Free Radicals | Chapter 10 |
| 6/22, 6/23 | Conjugation in Alkadienes and Allylic Systems | Chapter 11 |
| 6/23, 6/27 | Arenes and Aromaticity | Chapter 12 |
| 6/27 | Exam 4 (Chapter 10, 11, 12) | Chapter 10-12 |

NOTE: Not every chapter of the book will be covered to the same extent. Certain topics will be emphasized, others will not be discussed or just briefly.

Withdraw Policy

According to CSI's Summer 2022 Academic Calendar, the last day to withdraw with the grade of "W" without permission of an instructor or Chairperson is Jun 26, 2022. Please see the CSI Summer 2021 Academic Calendar for additional information.

Homework Assignment for CHM 250

It is essential that homework assignments are done conscientiously since they contribute greatly to an understanding of the course material. It is better to do the homework problems by writing them out in detail than scanning them all superficially. It is recommended that you work on those in-chapter HW problems (they are easier than end-of-chapter problems) as early as possible after the corresponding sections have been covered in the classroom so that what you learned in the classroom can be solidified by solving HW problems. Some of HW assignment problems will appear in an exam.

Text: *Organic Chemistry*, 10th Edition, F. Carey

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|---------|--|
| Chap 1 | 1, 6-9, 11, 14, 15, 17, 21-23, 25, 29-32, 36, 37, 43, 45, 47, 49-51, 54, 57, 59, 61, 65, 67, 68 |
| Chap 2 | 2, 4, 10-13, 15, 18, 21, 22, 26, 28, 36, 37, 41, 43, 44, 48 |
| Chap 3 | 1-3, 6-9, 12, 13, 21, 22, 27, 31, 37, 39, 44 |
| Chap 4 | 1, 2, 5, 8-10, 15, 18, 30, 38, 40 |
| Chap 5 | 4-7, 9, 13, 14, 18-20, 33, 34, 36, 40, 41, 43, 44 |
| Chap 6 | 2, 4, 6, 8, 9, 12, 15, 16, 20, 21, 26, 30, 32, 35, 37, 40 |
| Chap 7 | 1, 2, 4, 7, 8, 12, 14, 17, 19, 20, 22, 25, 27-30, 35, 40, 42, 43, 45, 46-49, 51, 53, 54, 57 |
| Chap 8 | 1, 3-6, 8, 10, 14, 16, 17, 19, 20, 24, 27, 30, 32, 33, 36, 39, 41, 44, 46-48, 50, 52, 54, 58, 64, 65, 67, 68 |
| Chap 9 | 2-6, 8, 10-12, 15, 25, 27, 29, 31, 35, 37 |
| Chap 10 | 1, 2, 4, 6, 8, 9, 12, 13, 16, 21(c), 24, 30 |
| Chap 11 | 2, 3, 5, 6, 9, 10, 14, 15, 27, 31, 34(a-f), 46, 48-52, 54 |
| Chap 12 | 2, 3, 7, 8, 11, 13, 15, 16, 17, 20, 23, 24, 26, 29, 32, 35, 39, 41, 43, 45, 51, 52, 54, 56, 57, 61 |

Student's Agreement

I have read the syllabus for CHM 250 summer 2019 and I agree to abide by all policies and requirements stated in the syllabus.

Print Name: _____

Signature: _____

Date: _____