

Organic Chemistry I – 2692
CHEM 2451 Section 1
Autumn Quarter, 2021



Welcome to Organic Chemistry I! This is the first of a three-quarter series in organic chemistry. The scope of this course broadly focuses on the chemistry of carbon and its compounds. We will discuss basic principles regarding chemical bonding, structure, and classification of organic molecules. We will then apply these concepts to study the chemical reactivity of such compounds. Understanding how molecules interact with others will allow for appreciation of chemical synthesis for the production of compounds useful for society, including pharmaceuticals, agrochemicals, plastics, pesticides and other materials.

Instructor: Professor Bryan J. Cowen

e-mail: bryan.cowen@du.edu

Phone: (303) 871-2559

Office: Seeley G. Mudd, Room 132 and Zoom

Lecture: MWF 9:00 a.m. – 9:50 a.m., Boettcher Center Auditorium 101

Recitation: T 9:00 a.m. – 9:50 a.m., Boettcher Center Auditorium 101

Office Hours: By appointment. Please e-mail me at least one day in advance.

Textbook: *Organic Chemistry, Sixth Edition*, by Marc Loudon and Jim Parise (Required)
You may use the Seventh Edition but we will follow the sequence of the Sixth Edition

Study Guide: *Study Guide and Solutions Manual to Accompany, Organic Chemistry, Sixth Edition*, by Marc Loudon and Jim Parise (Required)

Molecular Models: Molymod #62053 Organic Chemistry Molecular Model Set by Indigo Instruments or Darling Models from DU Bookstore (Required)

Exams: There will be three 50-minute exams during the quarter worth 100 points each. The final exam will also be worth 100 points. If your final exam score is higher than any 50-minute exam score, the lowest score will be dropped and the final will count for 200 points. ***There will be no makeup exams. If you miss an exam for any reason, that exam will be dropped and the final will count for 200 points. The final exam is not optional. [This exam policy is subject to change]***

Weekly Homework Problems: There will be weekly problem sets to be completed and submitted electronically into Canvas.

These problems are intended to help you understand the lecture material and reading assignments more thoroughly. We will review the problems during Tuesday morning recitation sections. Homework will be due Monday nights by 11 pm. The problems will be graded based on (a) completeness and (b) content for one select problem. Homework is worth 50 *total points* for the course. The lowest weekly homework score will be dropped. Late submissions receive no credit.

Final Grade: Your final letter grade will be determined out of 450 points and may be curved appropriately based on overall class performance. *[This grading policy is subject to change]*

Lectures: I will cover most material on the white board using three different colors. I would recommend bringing at least 3 colored pens/pencils to class. *I typically do not post my lecture notes online. If you miss a lecture, please see a classmate for the notes.* If PowerPoint slides are periodically incorporated in lecture they will be posted afterwards on Canvas.

Canvas: The University of Denver uses Canvas as its learning management system. You may log in to <https://du.instructure.com> with your DU ID number and PioneerWeb password to access the course. Please ensure your settings allow for e-mail announcement notifications. Here are some helpful Canvas resources to get you started:

Canvas Student Quickstart Guide: <http://guides.instructure.com/m/8470>

Canvas Student Guide: <http://guides.instructure.com/m/4212>

Academic Integrity: I have high expectations for each and every one of you as students at the University of Denver. While I encourage group study sessions outside of class, I expect you to work independently during in class examinations. Any deviations from this policy will not be tolerated. For more information, please see the University of Denver's official Honor Code at: <http://www.du.edu/studentlife/studentconduct/>

Science and Engineering Center: Need extra help? The Science and Engineering Learning Center is a collaborative space staffed by undergraduate and graduate learning assistants (LAs) trained to assist students with some first and second year biology, chemistry, physics, computer science and engineering courses. Our goal is to help students grow as problem solvers by assisting with homework sets, lab reports, and preparing for exams. See <http://portfolio.du.edu/sec> for a complete schedule.

COVID-19 Protocols: Please use the following link for up-to-date safety protocols (the classroom protocol section is particularly relevant): <https://www.du.edu/coronavirus/operations/protocols>

Preliminary Course Schedule – Subject to Change

Week #: Start Date	Topic	Reading
1: 09/13/21	Chapter 1: Chemical Bonding and Structure Chapter 2: Chemistry of Alkanes	pp 01 – 41 pp 45 – 68
2: 09/20/21	Chapter 2: <i>Continued</i> Chapter 3: Curved-Arrow Notation / Acids and Bases	pp 68 – 83 pp 87 – 96
3: 09/27/21 09/29/21 (W)	Chapter 3: <i>Continued</i> EXAMINATION I (material from Chapter 1.1 through 3.6) Chapter 4: Structure and Reactivity of Alkenes	pp 96 – 120 pp 125 – 152
4: 10/04/21	Chapter 4: <i>Continued</i> Chapter 5: Addition Reactions of Alkenes	pp 152 – 177 pp 181 – 198
5: 10/11/21	Chapter 5: <i>Continued</i> Chapter 6: Principles of Stereochemistry	pp 198 – 223 pp 229 – 250
6: 10/18/21 10/20/21 (W)	Chapter 6: <i>Continued</i> EXAMINATION II (material from Chapter 1.1 through 6.9) Chapter 7: Conformational Analysis and Reaction Stereochemistry	pp 250 – 267 pp 272 – 293
7: 10/25/21	Chapter 7: <i>Continued</i> Chapter 8: Alkyl Halides and Chalcogens	pp 293 – 317 pp 324 – 349
8: 11/01/21	Chapter 8: <i>Continued</i> Chapter 9: Reactions of Alkyl Halides	pp 349 – 377 pp 382 – 405
9: 11/08/21 11/10/21 (W)	Chapter 9: <i>Continued</i> EXAMINATION III (material from Chapter 1.1 through 8.6)	pp 405 – 427
10: 11/15/21	Chapter 9: <i>Continued</i> Finish Course Material and Review	pp 427 – 445
11/23/21 (T)	FINAL EXAMINATION (material from Chapter 1.1 through 9.8)	