

Organic Chemistry III – 2452  
CHEM 2453 Section 1  
Spring Quarter, 2023



*Welcome to Organic Chemistry III! This is the third and final edition 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 to produce compounds useful for society, including pharmaceuticals, agrochemicals, plastics, pesticides and other materials.*

**Instructor:** Professor Bryan J. Cowen

**e-mail:** [bryan.cowen@du.edu](mailto:bryan.cowen@du.edu)

**Phone:** (303) 871-2559

**Office:** Seeley G. Mudd, Room 132

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

**Recitation:** T 9:00 a.m. – 9:50 a.m., Olin Hall 105

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

**Textbook:** *Organic Chemistry, Seventh Edition*, by Marc Loudon and Jim Parise (Required)

**Achieve:** Online program for weekly homework problems (Required)

**Study Guide:** *Study Guide and Solutions Manual to Accompany, Organic Chemistry, Seventh Edition*, by Marc Loudon, Jim Parise, and Lisa Bonner (Highly Recommended)

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

**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 through Achieve.

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. 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 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 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 myDU Portal 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 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*

<b>Week #: Start Date</b>	<b>Topic</b>	<b>Reading</b>
1: 03/27/23	Chapter 19: Aldehydes and Ketones Chapter 19: <i>Continued</i>	<i>pp 1024 – 1077</i>
2: 04/03/23	Chapter 20: Carboxylic Acids Chapter 20: <i>Continued</i>	<i>pp 1086 – 1119</i>
3: 04/10/23 04/12/23 (W)	Chapter 21: Carboxylic Acid Derivatives <b>EXAMINATION I (material from Chapter 19.1 through 21.4)</b>	<i>pp 1129 – 1183</i>
4: 04/17/23	Chapter 21: <i>Continued</i> Chapter 22: Chemistry at the $\alpha$ -Carbon	<i>pp 1193 – 1265</i>
5: 04/24/23	Chapter 22: $\alpha,\beta$ -Unsaturated Carbonyl Compounds Chapter 23: Amines	<i>pp 1277 – 1319</i>
6: 05/01/23 05/03/23 (W)	Chapter 23: <i>Continued</i> <b>EXAMINATION II (material from Chapter 19.1 through 23.12)</b>	
7: 05/08/23	Chapter 24: Carbohydrates Chapter 24: <i>Continued</i>	<i>pp 1328 – 1373</i>
8: 05/15/23	Chapter 25: Thioesters Chapter 26: Aromatic Heterocycles	<i>Select pages pp 1426 – 1465</i>
9: 05/22/23 05/24/23 (W)	Chapter 26: Nucleic Acids <b>EXAMINATION III (material from Chapter 19.1 through 26.6)</b> Chapter 27: Amino Acids and Peptides	<i>pp 1476 – 1542</i>
10: 05/29/23	<i>Memorial Day – No Class</i> Finish Course Material Review for Final Exam	
<u>06/07/23 (W)</u>	<b><u>FINAL EXAMINATION (material through Chapter 27) 8 – 9:50 am</u></b>	