

Organic Chemistry III – 2824  
CHEM 2453 Section 1  
Spring Quarter, 2021



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 for the production of compounds useful for society, including pharmaceuticals, agrochemicals, plastics, pesticides and other materials.

**Instructor:** Professor Bryan J. Cowen

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**Office:** Seeley G. Mudd, Room 132 (Zoom)

**Lecture:** MWF 9:00 a.m. – 9:50 a.m. in Zoom

**Recitation:** T 9:00 a.m. – 9:50 a.m. in Zoom

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

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

**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. All exams will be posted and submitted electronically through Canvas. Directions will be provided on the cover page of each exam. 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]**

**Online Homework through Sapling:** There will be weekly problem sets to be completed online through the Sapling system. Please go to [www.saplinglearning.com/login](http://www.saplinglearning.com/login) to register for an account.

Detailed registration instructions can be found here: <https://community.macmillan.com/docs/DOC-5972-sapling-learning-registering-for-courses>

Technical support information can be found here:  
<https://community.macmillan.com/docs/DOC-6915-students-still-need-help>

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 online problems will be graded and are worth 50 *total points* for the course. The lowest weekly homework score will be dropped. Late submissions receive no credit.

**Potential Extra Credit Spring Quarter:** There will be a possible trial of new interactive problem solving software designed in-house at DU that could earn participants extra credit in the course. Details will be provided shortly.

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

**Lectures:** I will cover most material on ChemDraw and the whiteboard through Zoom. Class will be offered synchronously and will also be recorded and posted on Canvas for asynchronous access. *I may need to supplement class time with additional asynchronous sessions to ensure we cover all the material for the quarter.* 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. Students can access help by going to <http://portfolio.du.edu/SEC> & viewing the schedule for each discipline. Students can access LAs by clicking on the Zoom "room" link at the top of each discipline schedule.

*Preliminary Course Schedule – Subject to Change*

<b>Week #: Start Date</b>	<b>Topic</b>	<b>Reading</b>
1: 03/31/21*	Chapter 19: Aldehydes and Ketones Chapter 19: <i>Continued</i> *Spring quarter starts on a Wednesday	pp 946 – 970 pp 970 – 997
2: 04/05/21	Chapter 20: Carboxylic Acids Chapter 20: <i>Continued</i>	pp 1004 – 1018 pp 1018 – 1036
3: 04/12/21	Chapter 21: Carboxylic Acid Derivatives Chapter 21: <i>Continued</i>	pp 1044 – 1071 pp 1071 – 1094
04/16/21 (F)	<b>EXAMINATION 1 (material from Chapter 19.1 through 21.11)</b>	
4: 04/19/21	Chapter 22: Chemistry at the $\alpha$ -Carbon Chapter 22: <i>Continued</i>	pp 1103 – 1141 pp 1141 – 1172
5: 04/26/21	Chapter 23: Amines Chapter 23: <i>Continued</i>	pp 1183 – 1203 pp 1203 – 1224
6: 05/03/21	Chapter 24: Carbohydrates Chapter 24: <i>Continued</i>	pp 1232 – 1253 pp 1253 – 1277
05/05/21 (W)	<b>EXAMINATION 2 (material from Chapter 19.1 through 23.11)</b>	
7: 05/10/21	Chapter 26: Aromatic Heterocycles Chapter 26: <i>Continued</i>	pp 1327 – 1341 pp 1341 – 1366
8: 05/17/21	Chapter 27: Amino Acids and Peptides Chapter 27: <i>Continued</i>	pp 1372 – 1409 pp 1409 – 1441
9: 05/24/21	Finish Material through Chapter 27	
05/26/21 (W)	<b>EXAMINATION 3 (material from Chapter 19.1 through 27)</b>	
10: 05/31/21	<i>Memorial Day – No Class</i> Chapter 25: Thioesters	<i>selected pages</i>
11: 06/07/21	Review	
<b>06/08/21 (T)</b>	<b>FINAL EXAMINATION (material through Chapter 27)</b>	