Organic Chemistry I – 1961
CHEM 2451 Section 2
Winter Quarter, 2016



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Lecture: T/R 8:00 am – 9:50 am

Recitation: W 8:00 am – 8:50 am

Office Hours: By appointment, please email

Required Text: *Organic Chemistry, Sixth Edition*, by Marc Loudon and *Study Guide and Solutions Manual to Accompany Organic Chemistry, 6th Edition*, by Marc Loudon and Joseph G. Stowell

Recommended Model Kit: Molymod #62053 Organic Chemistry Molecular Model Set by Indigo Instruments or other similar kit (typically available on Amazon)

Course Objective: In this first quarter of the three quarter organic chemistry series we will learn about the ways in which elements bond together to form molecules (especially those containing carbon). We will learn about the conformation and three-dimensional structures of molecules and how these considerations influence their reactivity. Most importantly, it is my goal that all of you will not memorize the facts of organic chemistry, but come to understand the "why" of organic chemistry. This can be a major departure from how you may have successfully navigated other subjects. Nearly everything in organic chemistry builds upon previous knowledge and is highly interrelated; therefore it is important to study for understanding and not just memorization. It is important to relate new information to the topics we previously covered, assign relative values and begin to perceive patterns. When you understand why atoms bond together, why structures are more or less favorable, and why molecules react in the ways that they do you will be able to solve challenging problems that are beyond the scope of what you have previously seen. Learning to develop problem solving skills in this way will translate beyond this course and even other chemistry classes.

Lectures: The lectures will generally follow the progression of the textbook. Most lectures will be presented on the board. Attending every class and taking meaningful notes is incredibly important for this complex subject. Staying up with the reading will help you to understand the lecture better and take more meaningful notes. Both during the lectures and the recitation session we will work through problems. Working problems will be a pillar of your success in organic chemistry and by working through these together I hope to provide you with insight from my experiences, techniques for reasoning and problem solving skills.

Recitation: Wednesday recitations will provide us with an opportunity to go over challenging problems from the homework assignments or review particular topics. There may also be short quizzes (1-2 questions, ~20 min) that could be worth bonus points…

Homework: Working as many problems as possible is crucial to successfully reinforcing your understanding and building problem solving skills that will allow you to be successful on examinations.

- **Online Homework through Sapling:** There will be weekly problem sets to be completed online through the Sapling system. **Homework will be due Tuesday nights at 11 pm.** These problems will be graded and normalized to 50 points over the course of the quarter. The lowest weekly homework score will be dropped. *Late submissions receive no credit*. **http://bit.ly/saplinginstructions**

- **From the text:** I will occasionally assign additional problems from the text and select problems will be graded for bonus points. In addition to these being valuable in building your problem solving skills and providing additional practice, exam problems can be very similar or variants of these homework problems. While the answers to many problems are provided in the study guide, you should not consult the answer key until you have struggled to solve the problem on your own. In this way you will help yourself to identify areas where you may be making incorrect assumptions or misunderstanding a concept.

Working problems together can also be very helpful and I encourage you to go over solutions to problems in small groups after working the problems independently. Your peers may have an alternate way of looking at a problem than you or I might, which can add to your toolbox of problem solving skills. Additionally, helping to teach the subject to your classmates is amongst the best ways to understand a concept yourself.

Exams: There will be two midterm exams during the quarter worth 100 points each and a final exam also worth 100 points. If your final exam score is higher than either midterm exam score, the lowest score will be dropped and the final will count for 200 points.

Final Grade: Your final grade will be determined out of the 350 available points on exams and homework (plus all earned bonus points) and will be appropriately curved based on the overall class performance. **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.**

Cell Phone and Electronic Device Policy:
While I understand that mobile devices have become integral to our lives, they are disruptive to the learning environment. Therefore, I request that all electronic devices be turned off (not muted) during class (i.e.; please don't text/facebook during class). If an emergency arises, and you need to contact the outside world during our lecture or recitation time, I request that you quietly leave the room and conduct your conversation outside. Additionally, most all of our lectures will require far too much structural drawing for effective notes to be taken on a laptop so please leave these devices off during lecture.

Lecture and Testing Accommodations:
I will make every effort to accommodate students diagnosed with a learning disability. I will do this in complete confidence. I do, however, request that any student requiring these accommodations inform me the first week of class. For further information, please see the University Disability Services' website at http://www.du.edu/disability/dsp/index.html.

Academic Integrity:
While I advocate collaborative learning and teamwork, I also firmly believe that each individual should maintain the highest ethical standards. As such, I support and will strictly enforce the Honor Code of the University of Denver. www.du.edu/honorcode.

Honor Code Statement.
All members of the University of Denver are expected to uphold the values of *Integrity*, *Respect*, and *Responsibility*. These values embody the standards of conduct for students, staff, faculty, and administrators as members of the University community. These values are defined as:

Integrity: acting in an honest and ethical manner;
Respect: honoring differences in people, ideas, and opinions;
Responsibility: accepting ownership for one's own conduct.

Pioneer Pledge.
As a University of Denver Pioneer I pledge…

- to act with INTEGRITY and pursue academic excellence;
- to RESPECT differences in people, ideas, and opinions and;
- to accept my RESPONSIBILITY as a local and global citizen;

Because I take pride in the University of Denver I will uphold the *Honor Code* and encourage others to follow my example.

Topics to be covered: Preliminary Course Schedule – Subject to Change

Date	Topic	Reading
1/5/15	Chapter 1: Chemical Bonding and Structure	Pages 1-40
1/7/15	Chapter 2: Chemistry of Alkanes	Pages 45-86
1/12/15	Chapter 2: Continued	
1/14/15	Chapter 3: Curved Arrow Notation	Pages 87-119
1/19/15	Chapter 3: Acids and Bases	
1/21/15	Chapter 4: Structure and Reactivity of Alkenes	Pages 125-177
1/26/15	Chapter 4: Continued	
1/28/15	**Exam #1 (Chapters 1 - 4)**	
2/2/15	Chapter 5: Addition Reactions of Alkenes	Pages 181-222
2/4/15	Chapter 5: Continued	
2/9/15	Chapter 6: Principles of Stereochemistry	Pages 229-266
2/11/15	Chapter 6: Continued	
2/16/15	Chapter 7: Stereochemistry of Reactions	Pages 272-316
2/18/15	Chapter 7: Continued	
2/23/15	Chapter 8: Noncovalent Intermolecular Interactions	Pages 324-376
2/25/15	**Exam #2: (Chapters 1 – 7)**	
3/1/15	Chapter 8: Continued	
3/3/15	Chapter 9: The Chemistry of Alkyl Halides	Pages 382-444
3/8/15	Chapter 9: Continued	
3/13/15	**Final Examination (Chapters 1 – 9)**	

C**anvas and Class Notes:**

For most lectures information will be presented on the board, however, when PowerPoint slides are used they will be posted on Canvas. Suggested problems and additional practice problems will be posted on Canvas.