

CHM 241 Organic Chemistry Summer 2016

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Classroom Lectures: 10:30-12:05 pm, M-Th

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Office hours: by appointment or feel free to drop by during working hours.

Objectives for CHM 241: Learning the broad concepts and language of organic chemistry. Lay a solid foundation for second semester organic chemistry. Learn critical thinking by solving problems in organic chemistry. Gaining the tools you need for your own area of specialty. We will focus on material discussed in chapters 1-11 of *Organic Chemistry* by David Klein.

Required Text and other material for CHM 241: The textbook for CHM 241 is *Organic Chemistry* by David Klein, published by Wiley. The textbook is available in the bookstore as a bundled package containing a softcover Organic Chemistry (Klein) text, the study guide/solutions manual, a 2-semester Sapling Learning access code for the course homework site, and a molecular model set. You will be allowed to use the modeling kit while taking exams.

Clicker: You must have a Turning Point Response Card or smart phone with Response software for interactive learning during lectures. Attendance is automatically recorded by Turning Point software and is rewarded with points. Instructions on how to register your clicker and/or response software will be presented in lecture/on Canvas. You will also be encouraged to participate online via Tweeting. By following the class tweets, you can keep track of questions concerning specific problems in the textbook, discussions, and responses, etc. Sign up as a Follower of @CHM241sum13. (To register for a Twitter account, go to <http://twitter.com/>.)

Schedule for Lectures

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|--------|-----------|--|
| Week 1 | Chapter 1 | Electronic Structure and Covalent Bonding |
| | Chapter 2 | Molecular representations |
| | Chapter 3 | Acids and bases; pK_a ; Lewis acids and bases |
| Week 2 | Chapter 4 | Intro to alkanes, Conformational analysis |
| | Chapter 5 | Stereoisomerism; chirality, Molecular symmetry |
| Week 3 | Chapter 6 | Thermodynamics; reaction coordinate diagrams; Nucleophiles and electrophiles; mechanisms; |
| | Chapter 7 | Substitution; alkyl halides; intro to the S_N2 and S_N1 mechanisms |
| Week 4 | Chapter 8 | Intro to alkenes; nomenclature; stereoisomerism; stability; Intro to E2 and E1 elimination |
| | Chapter 9 | Reactions of Alkenes |

Week 6 Chapter 10 Reactions of Alkynes,
 Chapter 11 Intro to radicals; radical mechanisms; halogenation of alkanes

Grading: Grading will be based on quizzes, exams grades, and classroom participation as well as Sapling online homework. Class participants will be required to communicate their understanding of the material by clicker or smart phone response. The instructor will allocate appropriate amount of time in each lecture for discussions. Points will be rewarded for participation in class. The exams are worth 200 points. The other 200 points include participations (25 pts) and Sapling online homework assignment (25 pts), and quizzes (150 pts).

Exam Schedule: The following schedule and topics for the exams are tentative. All exams will be given in class and will last for 1 hour and 35 minutes. The final exam will be given on Thursday, June 26. You are encouraged to use some of your weekend times to prepare for the exams.

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|--------------|------------------------|--------------------|
| Midterm Exam | (Chapt. 1-7, 100 pts) | Tuesday, June 7 |
| Final Exam | (Chapt. 8-11, 100 pts) | Thursday, June 23 |
| Quizzes | (30 pts each) | See calendar below |

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|---------------------------|-------------------------------------|
| Sapling Problem Sets (3): | 25 |
| Attendance | 25 |
| Quizzes (6): | 150 (top 5 scores will be recorded) |
| Exams: | 200 |
| Course Total: | 400 |

Approximate cutoffs: $A \geq 90\%$, $B \geq 75\%$, $C \geq 60\%$, $D \geq 50\%$, $F < 50\%$. Plus/minus grades will generally not be awarded. The grading scale may be adjusted downward at the discretion of the instructor.

| May 2016 | | | | | | |
|----------|----------------------------------|--------------------|---------------|--------------|-----|--------|
| ◀ April | | | | | | June ▶ |
| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 Class begins | 18 | 19 Quiz 1 | 20 | 21 |
| 22 | 23 | 24 | 25 Quiz 2 | 26 | 27 | 28 |
| 29 | 30 Memorial Day, No class. | 31 | Notes: | | | |

| June 2016 | | | | | | |
|-----------|--------------|--------------|--------------|------------------|--------|--------|
| ◀ May | | | | | | July ▶ |
| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
| | | | 1 Quiz 3 | 2 | 3 | 4 |
| 5 | 6 | 7 Midterm | 8 | 9 | 10 | 11 |
| 12 | 13 Quiz 4 | 14 | 15 | 16 Quiz 5 | 17 | 18 |
| 19 | 20 | 21 | 22 Quiz 6 | 23 Final Exam | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | Notes: | |