

Organic Chemistry II

CHMO-332

Instructor: Dr. Michael G. Coleman
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Office Hours: Tuesday and Thursday 2:00^{0m} – 3:00^{pm}
Required Text: D. Klein, Organic Chemistry, 3rd edition, Wiley, 2017
Recommended Text: D. Klein, Organic Chemistry: Student Study Guide and Solutions Manual, Wiley, 2017

Prerequisites: Passing grade in CHMO 331 or equivalent credit

Learning Objectives: Students in this class will:

- Understand the nomenclature, physical properties and chemical reactivity of important functional groups including conjugated π -systems, aromatic compounds, alcohols, amines, and carbonyl compounds
- Learn important spectroscopic signatures of aromatic compounds, alcohols, amines, and carbonyl compounds
- Be able to write detailed mechanisms for important reaction classes: electrophilic aromatic substitution, oxidation, reduction, and carbonyl nucleophilic addition reactions
- Be able to plan multi-step syntheses of organic compounds

Why is Organic Chemistry a class that you will never forget? The majority of you may wonder why you are required to take this class and what will you get out of it. Organic chemistry is important for nearly all scientists because nearly chemicals in the workplace and in your daily lives contain carbon, oxygen, nitrogen, and halogen. Even if you don't buy the relevance of this class to your profession, organic chemistry teaches important problem solving skills that are directly relevant to all scientists, engineers, and health professionals.

Week 5	IN-CLASS EXAMINATION #1 Tuesday, September 20, 2022
Week 10	IN-CLASS EXAMINATION #2 Tuesday, October 25, 2022
Week 15	IN-CLASS EXAMINATION #3 Tuesday, November 29, 2022
Final Exam	IN-CLASS EXAMINATION #4 TBA

FINAL GRADE: Your final grade will be based upon a weighted average of the following:

'Best 3 of 4' IN-CLASS EXAMINATIONS	=	75%
'Best 8 of 12' IN-CLASS QUIZZES	=	15%
'Best 8 of 12' Take Home HOMEWORKS	=	10%
TOTAL	=	100%

'Best 3 of 4' IN-CLASS EXAMINATIONS: All Take Home EXAMINATIONS will be cumulative due to the prerequisite knowledge gained during Organic Chemistry I. There will be **NO MAKE-UP Take Home EXAMINATIONS**. The FINAL

EXAMINATION is not comprehensive. It will serve as the make-up. Students who miss more than one exam will be expected to withdraw.

'Best 8 of 12' IN-CLASS QUIZZES: All Weekly Quizzes will be electronic with or without prior notice. This dually serves as a record of attendance and a measure of student comprehension. There will be **NO MAKE-UP Take Home QUIZZES**.

'Best 8 of 12' Take Home HOMEWORKS: Take Home homework problems will be assigned in class and posted on myCourses. There will be **NO MAKE-UP Take Home HOMEWORKS**.

LECTURE NOTES: Lecture notes will be available on myCourses. If you miss a class period, please contact your peers to obtain any missing in class course information. Office hours will not be an opportunity for review of lecture material. It serves as a question and answer period.

SUGGESTED PROBLEMS: The 'Skill Builder' problems (at the end of each section), in addition to the Practice Problems, Integrated Problems, and Challenge Problems (at the end of each chapter), are there for your mastery. Solutions to all problems can be found in Organic Chemistry Solutions Manual. These problems are a good source of study material for the Quizzes and In-Class Examinations.

ACADEMIC SUPPORT: Tutors will be available through the School of Chemistry and Materials Science's Laboratory Teaching Assistants (TAs), the Learning Development Center (LDC), and the Premedical Student Association. If you cannot find a tutor, please come to office hours to identify a tutor.

PROBLEM SOLVING SESSIONS: (TBA)

HELPFUL HINTS:

1. Familiarize yourself with the textbook. Each chapter has Problems and Problem Solving Hints. This will aid your ability to draw key conclusions before you navigate from section to section.
2. The Glossary, Essential Problem-Solving Skills, and Study Problems at the end of each chapter will provide a checklist of key terms and concepts.
3. Use the margin notes as helpful information from the author. Be sure to read them.
4. Work out all the examples and problems contained within the chapter. This will help you master the key points.
5. Do not overlook "Problem-Solving Hints." They offer practical approaches to important concepts.
6. Work out as many PROBLEMS contained at the end of each section. As you practice problems you will discover a pattern and also increase your ability to draw structures quickly during the IN CLASS EXAMINATIONS.
7. Do not allow the problems to frustrate you. Utilize all the resources you have to solve the problem. Then re-attempt it after a brief break. Get a lot of scrap paper.
8. **DO NOT FALL BEHIND!** Organic chemistry is a vast subject based on mechanistic theory. Master drawing structures, recognize the reactivity, and master the subsequent reactions. You will never memorize all reactions. Much like you could never memorize every math problem. Both subjects require an algorithmic approach, where the reactants undergo a sequence of finite events to generate a product.