

CHEMISTRY 331 Organic Chemistry I Fall 2023

Sections:	MWF: 9:55-10:45 AM; TR: 2:10-3:30 PM
Room:	Gilman 1002 Exams held in-person on Monday nights, 6:45-7:45 PM
Instructor:	Mason Koeritz
Office:	2756 Gilman Hall
Phone:	515-294-8860
E-Mail:	mkoeritz@iastate.edu [Write " Chem 331 " on the subject]
Office Hours:	Wednesdays: 11:00AM – 12:00PM, Thursdays 3:30-4:30PM Or for at least 30 minutes after class M-F

Textbook: *Organic Chemistry*, 4th Edition, by David Klein (available as Ebook and physical book). An optional *Student Study Guide & Solutions Manual for Organic Chemistry*, 4th Edition is also available and is recommended.

Canvas: We will be using Canvas for this course. Lecture notes, previous exams, grades, homework assignments, and class announcements will be posted there.

Online Homework: We will use the online homework system called WileyPlus, which is integrated into Canvas. Problem sets are questions that are derived from the end-of-chapter problems from the book. The homework is worth 10% of your final grade. In addition to the homework, there will be weekly quiz assignments for each chapter worth 10 points each. These quizzes will be worth 5% of your grade. There is an opportunity for extra credit with the Adaptive Learning assignments. They will be worth an extra 3% towards your overall grade at the end of the semester. More information will be posted on Canvas.

Top Hat: We will be using the Top Hat program during lectures as a means of practice, but the questions will not be graded. It is expected that you will engage with the class and answer the questions, but the results will not impact your overall grade for the course. The Top Hat program is initially accessed via Canvas and will not cost anything additional. During lecture, the Top Hat program may be accessed via an app on your phone or laptop.

Grading: There will be four 100-pt semester exams and a 125-pt cumulative final exam. The course grade will be based on the three best 100-point exam scores plus the final exam score (which cannot be dropped). The lowest score on a 100-point exam or a missed midterm exam will be automatically dropped. Missing an exam for any reason will result in that exam being dropped. Cheating on an exam will earn a zero for that exam, which **cannot** be dropped. You are guaranteed the following grades: >90% A, > 85% A-, >82% B+, >79% B, > 74% B-, >70% C+, >60% C, >50% D; <50% F. Thus, in principle everyone in the class can earn an A. Since an exam will be dropped, it is not possible to tell you exactly where you stand grade-wise until all exam grades have been submitted. If you are satisfied with your exam grades after the first 3 exams, you may choose to not take the 4th exam, though you will be responsible for its content on the final exam. **Any errors in points or grades posted on Canvas should be addressed to mkoeritz@iastate.edu within a week from the date posted. It is your responsibility to monitor your score in Canvas.**

Exams: All exams are currently scheduled to held in-person on Monday nights from 6:45-7:45pm for all sections. More details about the exam format will be communicated the week before the exam. In addition to the Final Exam (125 pts), there will be **four midterm exams** (100 pts each). **THERE WILL BE NO MAKE-UP EXAMS.** Any re-grades on an exam must be requested within one week after receiving the graded exam. **Missing an exam for any reason will result in that exam being dropped.** The reason that I drop an exam is that it allows you to miss an exam for a personal or family emergency (such as an illness, a death in the family, car troubles, etc), or for other legitimate cause without suffering a grade penalty.

Relationship to online section: The course content/text, WileyPlus assignments, and exams will be the same.

Co-requisite: Chem 331 is a CO-REQUISITE for Chem 331L.

Drops and Audits: Students taking Chem 331L will be required to drop the lab if they drop or decided to audit Chem 331 lecture course. Auditing does not count towards full-time student status.

Schedule for Chem 331 (Fall 2023)

Week	Date	Recommended Reading	Key Topics
Week-1	August 21	Chapter 1	Intro to Organic Chemistry Review of General Chemistry
Week-2	August 28	Chapter 2 Chapter 3	Molecular Representation Acid-Base Chemistry
Week-3	Sep 4 – Labor Day Sep 5-8	Chapter 4	Alkanes and Cycloalkanes
Week-4	September 11 (Mon) Tues-Fri	EXAM 1 Chapter 5	Topics: Chapters 1-4 Stereoisomerism
Week-5	September 18	Chapter 6	Chemical reactivity and mechanisms
Week-6	September 25 (Mon) Tues-Fri	EXAM 2 Chapter 7	Topics: Chapters 5-6 Substitution and Elimination Reactions
Week-7	October 2	Chapter 7	Substitution and Elimination Reactions
Week-8	October 9	Chapter 7/ Chapter 8	Substitution and Elimination Reactions (finish) Addition Reactions of Alkenes
Week-9	October 16	Chapter 8	Addition Reactions of Alkenes
Week-10	October 23 (Mon) Tues-Fri	EXAM 3 Chapter 9	Topics: Chapters 7-8 Alkynes
Week-11	October 30	Chapter 10	Radicals
Week-12	November 6	Chapter 11 Chapter 14	Synthesis (problem solving) Infrared spectroscopy and Mass spectrometry
Week-13	November 13 (Mon) Tues-Fri	EXAM 4 Chapter 15	Topics: Chapters 9-11, 14
Week-14	November 20	THANKSGIVING WEEK NO CLASS	
Week 15	November 27	Chapter 15	NMR spectroscopy
Week 16	December 4	Prep Week. Final exam review	
	December 11-14	FINAL EXAM WEEK	Comprehensive Final Exam including Chapter 15 (To Be Scheduled)

Course Expectations: *A large amount of new material will be covered in this course and it is extremely important that you keep up. You should read the appropriate chapter before the lecture covering that material in order to more easily follow the discussion. Also, do not cut classes and you will miss the connections between lectures. Work on the end-of-chapter problems for your own benefit. The answers to those problems are available in the Study Guide & Solutions Manual. It is strongly advised that you work as many problems as you can to do well in this course.*

The three most important tips for doing well in this class:

1. Read the book chapter and work the in-chapter problems **prior** to coming to class. This is an effective use of your time because you will get more out of the videos if you have read ahead.
2. Work all of the online homework following lecture.
3. Don't fall behind, as it is nearly impossible to catch up! Contact the instructor if you're struggling with certain concepts.

Learning Objectives:

Organic chemistry is a challenging subject. You will be expected not only to learn factual information, but also to apply your newfound understanding to open-ended problems. You should not aim simply to memorize the material. Rather, you should try to make sense of trends so that you can make predictions in unfamiliar situations. Problems fall into Five major categories:

Naming of Organic Compounds: You will learn about naming compounds which are cyclic or acyclic, alkanes, alkenes and alkynes with or without specifying stereochemical information such as R, S, E, Z, cis or trans.

Structure and properties: Major topics in this area include the properties of functional groups (the key parts of organic molecules), conformational analysis (the study of how molecules fold in three dimensions), and stereochemistry (the study of molecules possessing mirror-imaged partners).

Reactions and mechanisms: You will learn to predict the products of reactions, propose reagents for effecting desired reactions, and explain why reactions proceed the way they do.

Organic synthesis: Using your understanding of reactions, you will propose methods for preparing target molecules through multi-step reaction sequences.

Structure determination: Using your understanding of organic chemistry, you will deduce the structures of unknown compounds by analyzing their properties under a variety of conditions

Mandatory Syllabus Statements:

Academic Dishonesty

The class will follow Iowa State University's policy on academic dishonesty. Anyone suspected of academic dishonesty will be reported to the Dean of Students Office.

<http://www.dso.iastate.edu/ja/academic/misconduct.html>

Disability Accommodation

Iowa State University complies with the Americans with Disabilities Act and Sect 504 of the Rehabilitation Act. If you have a disability and anticipate needing accommodations in this course, please contact (instructor name) to set up a meeting within the first two weeks of the semester or as soon as you become aware of your need. Retroactive requests for accommodations will not be honored.

Prep Week

This class follows the Iowa State University Prep Week policy as noted in section 10.6.4 of the Faculty Handbook <http://www.provost.iastate.edu/resources/faculty-handbook> .

Harassment and Discrimination

Iowa State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon race, ethnicity, sex (including sexual assault), pregnancy, color, religion, national origin, physical or mental disability, age, marital status, sexual orientation, gender identity, genetic information, or status as a U.S. veteran. Any student who has concerns about such behavior should contact his/her instructor, [Student Assistance](#) at 515-294-1020 or email dso-sas@iastate.edu, or the [Office of Equal Opportunity and Compliance](#) at 515-294-7612.

Religious Accommodation

If an academic or work requirement conflicts with your religious practices and/or observances, you may request reasonable accommodations. Your request must be in writing, and your instructor or supervisor will review the request. You or your instructor may also seek assistance from the [Dean of Students Office](#) or the [Office of Equal Opportunity and Compliance](#).

Free Expression.

Iowa State University supports and upholds the First Amendment protection of [freedom of speech](#) and the principle of [academic freedom](#) in order to foster a learning environment where open inquiry and the vigorous debate of a diversity of ideas are encouraged. Students will not be penalized for the content or viewpoints of their speech as long as student expression in a class context is germane to the subject matter of the class and conveyed in an appropriate manner.

Contact Information

If you are experiencing, or have experienced, a problem with any of the above issues, email academicissues@iastate.edu.