CHEMISTRY 331 Organic Chemistry I Fall 2022

Sections:	Tu/Th 2:10-3:30 pm.
Room:	1002 Gilman. Our exams will be held in person at 6:45-7:45 PM, exam room TBD.
Instructor:	Dr. Art Winter
Office:	2101D Hach Hall
Phone:	294-2813
E-Mail:	winter@iastate.edu **[Write "Chem 331" on the subject]**
Office Hours:	Tu/Th after class or by appointment
Head TA:	Liang-Yu Chen (liangyuc@iastate.edu) will handle logistics related to this class such as the online homework and exam regrades.

Textbook: *Organic Chemistry*, 4th Edition, by David Klein (available as Ebook and physical book).

Canvas: We will be using Canvas for this course. Lecture videos, 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. There are two WileyPlus assignments per chapter. One is pre-lecture assignments, due for each chapter before we cover the material in lecture. These pre-lecture assignments are required and are assigned to give you an incentive to read the book ahead of lecture.

A second optional homework, available for a small amount of extra credit (up to 5%), is an adaptive learning homework that tailors questions to the individual. This system will ask you ~20 questions at the beginning of each chapter to gauge your proficiency in that particular chapter. The system will then present you will additional questions based on your strengths/weaknesses to aid in your learning. You must answer at least 40 questions to get credit for doing the work. After 40 questions, points will be given out based on your proficiency level for that chapter at the due date. You can attempt as many questions as you wish to improve your proficiency level before the due date. After the due date, you can continue to practice these problems but it will not impact your score.

In total, the homework is worth 50 pts (10%), but up to 75 points can be earned if you do the adaptive extra credit assignments.

Grading: There will be four 100-pt evening exams and a 150-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) and 50 pts for homework (total = 500 points). The lowest score on a 100-point exam or a missed hour 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. ***Any errors in points or grades posted on Canvas should be addressed to Liang-Yu Chen 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*** 6:45 – 7:45 PM, location is TBD. More details will be communicated the week before the exam. In addition to the Final Exam (150 pts), there will be **four in-class 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 M/W/F section (taught by Prof. Joseph Awino): The course content/text/homework/exams

will be the same. There is also an online section that will be independent of this course and will have different exams, quizzes, and different requirements.

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 2022)

Week	Date	Recommended Reading	Key Topics
Week-1	August 22	Chapter 1	Intro to Organic Chemistry Review of General Chemistry
Week-2	August 29	Chapter 2 Chapter 3	Molecular Representation Acid–Base Chemistry
Week-3	Sep 5	Chapter 4	Alkanes and Cycloalkanes
Week-4	**September 12 (Mon)** Tues-Fri	**EXAM 1** Chapter 5	**Topics: Chapters 1–4** Stereoisomerism
Week-5	September 19	Chapter 6	Chemical reactivity and mechanisms
Week-6	**September 26 (Mon)** Tues-Fri	**EXAM 2** Chapter 7	**Topics: Chapters 5–6** Substitution and Elimination Reactions
Week-7	October 3	Chapter 7	Substitution and Elimination Reactions
Week-8	October 10	Chapter 7/ Chapter 8	Substitution and Elimination Reactions (finish) Addition Reactions of Alkenes
Week-9	October 17	Chapter 8	Addition Reactions of Alkenes
Week-10	**October 24 (Mon)** Tues-Fri	**EXAM 3** Chapter 9	**Topics: Chapters 7–8** Alkynes
Week-11	Oct 31	Chapter 10	Radicals
Week-12	November 7	Chapter 11 Chapter 14	Synthesis (problem solving) Infrared spectroscopy and Mass spectrometry
Week-13	**November 14 (Mon)** Tues-Fri	**EXAM 4** Chapter 15	**Topics: Chapters 9–11, 14**
Week-14	**November 21**	**THANKSGIVING WEEK NO CLASS**	
Week 15	**November 28**	Chapter 15	NMR spectroscopy
Week 16	**December 5**	Dead Week. Final exam review	
	December 12-16	**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 (use old exams to study the week before a test).
3. Don't fall behind, as it is nearly impossible to catch up!

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 Dead 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.