

CHEMISTRY 2310 (4 CREDITS)
ORGANIC CHEMISTRY I
FALL 2023

CLASS TIME: Lecture: MW 1:25-2:45pm
Discussion Th 2-2:50pm or 4-4:50pm

PREREQUISITES: CHEM 1220 (Co-requisite: CHEM 2315)

INSTRUCTOR: Prof. Janis Louie (e-mail: louie@chem.utah.edu)
Office: 4226 HEB Phone: 581-7309

OFFICE HOURS: Prof. Louie will hold office hours Wednesdays at 10:35am in HEB 2006 and on Zoom (see Canvas Page)
For all office hours (including TAs): see Schedule on Canvas Page or schedule appointment

TECHNICAL REQUIREMENTS:

- Students are expected to be computer literate, and Canvas, Flip, and zoom navigation skills are expected. Knowledge and navigation of canvas, flip, and zoom is critical to access all features and resources of this course.
- Course Canvas Page: Include expectations for Canvas monitoring (e.g. Students are expected to log in and check canvas **every weekday** for posted announcements and assignments. Students are also strongly advised to set up notifications for Canvas so they do not miss any important notifications.)
- For Zoom sessions, a strong internet connection and adequate bandwidth is needed.
- For technical assistance, review the [Canvas Getting Started Guide for Students](#) and/or contact TLT and Knowledge Commons.

TEXTS: “Organic Chemistry” by David Klein, **4e eBook and Wiley Plus** Inclusive Access (includes the Klein eTextbook, Student Solutions Manual, plus embedded Klein Solved Problem Videos, online problem sets).

Also highly recommended:

- a set of molecular models
- “Organic Chemistry as a Second Language” by David R. Klein, Wiley

LEARNING OUTCOMES:

Chapters 1-15 (in Klein, except chapter 10)

The **goal** of this course is for the students to:

- Improve/enhance their **study** habits
- Increase their **problem-solving** abilities (i.e., learn at a faster rate)
- Set **goals** for themselves and develop actionable items that lead to attaining those goals
- Practice their **communication** skills

- Practice their **leadership** skills (i.e., inspiring and uplifting others)

These skills will be practiced through the *art of organic chemistry* and at the conclusion of the course, students can:

- Depict the three-dimensional structure of organic molecules and illustrate the “handedness” of any stereocenters
- Identify isomers
- Identify the hybridization and geometry of each component atom in the molecule.
- Depict viable resonance structures of a molecule and rank the stability of all possible resonance structures
- Utilize pka constants to determine whether a reaction proceeds to afford products, is in equilibrium, or does not proceed at all
- Utilize pka constants to determine the nucleophilicity of a molecule
- Identify nucleophiles and electrophiles and utilize them, in combination, to synthesize small molecules
- Propose mechanistic pathways for a variety of organic reactions
- Determine the structure of organic molecules using IR and NMR spectroscopic techniques

EXAM SCHEDULE AND OTHER IMPORTANT DATES:

| | | |
|----------|-----------------|--|
| 8/21 | Monday | First day of class |
| 9/1 | Friday | Last day to add, drop (delete), elect R/NC, or audit classes |
| 9/4 | Monday | Labor Day (No Classes/Office Hours) |
| 9/20 | Wednesday | Exam 1 |
| 10/7-14 | Saturday-Sunday | Fall Break – No office hours |
| 10/20 | Friday | Last day to withdraw from class |
| 10/25 | Wednesday | Exam 2 |
| 11/22 | Wednesday | No Class |
| 11/23-24 | Thursday/Friday | Thanksgiving Break |
| 12/4 | Monday | Exam 3 |
| 12/1 | Friday | Last day to reverse CR/NC option |
| 12/8 | Thursday | Classes End |
| 12/13 | Wednesday | Final Exam |

WILEY PLUS PROBLEMS (15%):

Online, adaptive Wiley Plus Problem sets have been assigned to all non-exam weeks. These Wiley Plus problems are *adaptive* – meaning the difficulty of the problems given to you adapt to how YOU answer them *to promote learning*. If a question is too difficult for you to answer, a slightly easier question will be asked such that you remember the foundation of the concept before applying it to more challenging problems. Because these problem sets are adaptive, each person will receive a unique set of questions that are completely tailored to their/your learning. The best way to LEARN is by DOING! The more time you spend tackling the problems, the better you will absorb the material. Do not put off doing the problem sets until the last minute! You have unlimited attempts to tackle the problems; start early and do them often until you have a full understanding of the concepts and have mastered your problem-solving skills.

ACTIVITY SETS (10%):

I have also included the activity sets that are indicative of what you will tackle throughout your scientific undergraduate career. They require more explanation in your given answers, though you may use the equivalent problem-solving that you did in the adaptive Wiley Plus

problems. I encourage you to work through these problems on your own and in a study group; if you have trouble after that, please come to office hour with either myself or a TA. We WANT to help!

Points for these problem sets will be for EFFORT. That is, you must upload what your problem set by the due date, regardless of how "complete" your problem set is. Answer keys will be posted the day after the due date. As such, NO LATE problem sets will be accepted. NO EXCEPTIONS.

SURVEY QUESTIONS & OFFICE HOURS (5%):

Your success in this class is important to me! Though I have been teaching organic chemistry for the past 20 years, learning is a life-long process and I am continually striving to improve this course. To help evolve this course, "survey" questions are assigned. They will not be graded for correctness as there are no "right" or "wrong" answers. Points (5 points per survey) will be assigned in an all-or-nothing fashion. Assignments that are *conscientiously complete* will receive full credit. That is, your answers must be thoughtful and clear. Assignments that 1) are incomplete (not all questions are answered), 2) include answers without effort, and 3) are not turned in will receive a zero.

In my experience, students who seek help *early and often* through office hours are the ones who excel in the course. I want to help you develop this HABIT! The other part of this 5% "Survey Questions" assignment will be to attend 10 office hours during the semester.

- To earn Office Hour points, this is the requirement:
 - 10 points: Between now and Exam 1: Attend 3 office hours
 - 10 points: Between Exam 1 and Exam 2: Attend 3 office hours
 - 10 points: Between Exam 2 and Exam 3: Attend 3 office hours

Note: You do not need to go to the same office hour/TA each time. And, if you can not make the office hours in a given week, you can schedule a time with myself or one of the TAs. Every week, we will note down when you attended a FULL office hour and office hour points will be awarded after each exam. Popping into an office hour for 5-10 minutes does NOT count. Please come to the office hour with specific topics/questions you want help with or more detail. This will ensure the office hour is productive for you. We want you to succeed and are here to help!!

FLIP VIDEO PRESENTATIONS (10%):

You will be randomly assigned to a group of 3-4 people and tasked with building a video that answers a specific organic chemistry problem. The video will be uploaded to Flip.com, a video hosting site, for other students *in this class* to learn from and provide feedback. The videos will NOT be open to the public. You will be assigned THREE videos to complete and the timeline correlates to the timing of the exams.

The purpose of this video project is (1) to give you practice solving complex problems in chemistry, (2) to build your confidence in your ability to navigate complex problems, (3) to develop your skills in technical oral communication, and (4) to build a community of chemistry learners with your peers (hence the new group)!

A secondary purpose for this video project is to help you study for your lecture exam which is why the due date of this project aligns with the timing of your lecture exam. It is highly recommended that you understand how to reach the provided answers for the problem set prior to the exam since similar problems may appear on your lecture exam itself.

You will be assigned a set of problems with accompanying background information. You will work through the problems and provide detailed explanations for your problem-solving process in a group video. You must work through all parts of the problem set to receive credit. This video project is all about the process, not the final answers! Thus, the final answers are given in the problem sets so that you may check your work. Your explanations should be thorough

enough to teach someone how to solve these problems by watching your video! That is how *you* will know how to solve the problems.

EXAMS (60%):

Three midterm exams and one Final exam, each contributing to 15% of your grade, will be administered. The point break down is designed such that no one exam will make-or-break you! Be consistent and do the homework - you will succeed on the exams and in the course!

LATE ASSIGNMENTS:

No Late Assignments will be accepted. NO exceptions. Do not even ask. I will not respond to these requests.

This includes changing the date of the exams. The exam is given during class time and the final is given during the University allotted time slot; there should be no other final that overlaps with this final. No accommodations for exam dates and assignments will be made if you are traveling for a wedding, family vacation, etc.

GRADING POLICY:

The total maximum score for the course will be based on the following equation: 5% (Survey Questions/Office Hours) + 15% (Wiley Plus problem sets) + 10% (Activity Sets) + 10% (3 Flip Video Presentations and Peer Feedback) + 45% (3 Midterm exams) + 15% (Final cumulative exam).

The class will NOT be curved. See *grading table below for grade breakdown.*

In addition, **your final grade will be raised if you show improvement in the class.** Specifically, if your Final Exam grade is **10%** higher than the average of your 2nd two exams (i.e., Exam 2 and Exam 3), your grade will be raised one unit (i.e., B+ to A-). Furthermore, if your Final Exam grade is **20%** higher than the average of your 2nd two exams, your grade will be raised two units (i.e., B to A-). *However, to move from an E to a C-, your Final Exam grade MUST be 30% higher than your average grade of your 2nd two exams.*

| Percent | Grade |
|----------|-------|
| 86-100 | A |
| 85 | A- |
| 84 | B+ |
| 76-83 | B |
| 75 | B- |
| 74 | C+ |
| 66-73 | C |
| 65 | C- |
| below 65 | E |

Leadership bonus: Every one of you will find a job/career/position in life in a service industry. Unless you work SOLELY with corpses, you will interact with people and as such will be "serving," in some way or another, the people you interact with. **How** interact with people is directly correlated to your success in life!

I want you to think of "that" person - the person who seems to bring out the *best* in you! You have *no doubt* that this person supports you and you know this through the encouragement they give you and the way they make you *feel*. Can YOU be "that" person for someone else?! At least, can you practice these **leadership skills** in this class? People often view leadership as "someone who tells other people what to do and what they did wrong." If you interact with this type of person, do *you* think to yourself, "wow, what a great leader?" - NO!!! I want you to practice encouraging and uplifting your fellow classmates. So much so, that I will ask the entire class to submit two of their peers (one female and one male) that were the most helpful and inspiring to them and to briefly explain why. The two peers (one female and one male) that get the most votes will receive an extra 3% overall credit in the class; **their overall grade percentage will increase by 3%.**

Note: a person must receive at least 10 votes and each vote will only count if a valid explanation is given. If just a name is submitted, a full vote will not be counted.

Extra Credit/Points: There is NO EXTRA CREDIT. I do not "round up" at the end and there are no extra credit assignments. Do NOT ask for "other ways" you can earn points in this class. I will not respond to these requests.

Note: THERE WILL BE NO MAKE-UP EXAMS/QUIZZES/ACTIVITIES/ASSIGNMENTS. Exceptions to this policy must be cleared in advance (only valid University related absences) and/or must be due to certifiable emergencies.

Anyone caught cheating on an exam will be referred to the Dean for disciplinary action and should expect to receive an E in the course. In addition, a letter detailing the cheating incident will be put on the student's permanent academic file. A typical way to cheat is to submit a question to an online tutoring source to get the answer. We have ways of monitoring this problem, so please don't try it.

REGRAIDING POLICY:

Legitimate questions concerning the grading of an exam can be made up to 1 week after the exam has been returned. In order to have the exam re-graded, a justifiable reason for the re-grade must be submitted in addition to the original exam. Statements like: "re-grade number 5", "I think number 5 is right", and "I deserve partial credit on number 5" will not be accepted. DO NOT WRITE ON THE EXAM! No re-grades where the examination itself has been written on will be accepted.

CHEATING POLICY:

By submitting an assignment, you are representing that it is your own work and that you have followed the rules associated with the assignment. Incidents of academic misconduct (including cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely, in accordance with the Student Code (<http://regulations.utah.edu/academics/6-400.php>). A single instance of academic misconduct may result in a failing grade for the course. Multiple instances of academic misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, or revocation of a degree or certificate.

COVID-19 CONSIDERATIONS: Students must self-report if they test positive for COVID-19 via coronavirus.utah.edu.

SAFETY:

The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

In addition, Commuter Services will provide a late-night, on-demand shuttle service that is launching this fall. Tentative service hours will be 6:00pm – 12:30am. More information about how to utilize the software (Tap Ride) will be forthcoming.

AMERICANS WITH DISABILITIES ACT:

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations.

All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

SEXUAL MISCONDUCT:

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

WELLNESS:

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.