

## CHEM 8A: Organic Chemistry, Summer 2023

*This course is taught on the unceded territory of the Awaswas-speaking Uypi Tribe. The Amah Mutsun Tribal Band, comprised of the descendants of Indigenous people taken to missions Santa Cruz and San Juan Bautista during Spanish colonization of the Central Coast, is today working hard to restore traditional stewardship practices on these lands and heal from historical trauma.*

**University of California, Santa Cruz: Department of Chemistry and Biochemistry**

**Instructor:** Catherine McCaughey, PhD

**Email:** [cmccaugh@ucsc.edu](mailto:cmccaugh@ucsc.edu)

**Lecture:** MWF 8-11:20AM, Humanities Lecture Hall

**Office Location:** TBD

**Office Hours:** TBD

**Teaching Assistants:** Rachel Harold, [rharold@ucsc.edu](mailto:rharold@ucsc.edu)

Kevin Lofgren, [kclofgre@ucsc.edu](mailto:kclofgre@ucsc.edu)

**Discussion Sections:** 01A Monday 6-7pm, Engineering 2 192

01C Tuesday 2-3pm, Physical Sciences Building 130

01B Wednesday 6-7pm, Engineering 2 192

01D Thursday 2-3pm, Physical Sciences Building 114

### Required Materials:

- J. McMurry, Organic Chemistry, 8th Edition, Cengage 2012
- Study Guide & Student Solutions Manual - McMurry Org. Chem., 8th Edition Cengage 2012
- Both textbook and solution manual can be downloaded [here](#)
- Optional but Highly Recommended: Molecular Model Kit for Organic Chemistry

**Summer 2023 drop date:** Monday July 3

**Disability Resource Center (DRC):** The Disability Resources Center reduces barriers to inclusion and full participation for students with disabilities by providing support to individually determine reasonable academic accommodations. If you qualify for classroom or exam accommodations because of a disability, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me as soon as possible, preferably within the first week of the Summer Session. We'll set up a brief, friendly one-on-one meeting by the second week of class to discuss your needs. ). If you have questions or concerns about exam accommodations or any other disability-related matter, email the DRC Schedulers at [drc@ucsc.edu](mailto:drc@ucsc.edu) for an appointment.

**Learning Support Services (LSS):** [Small Group Tutoring](#) is for everyone and open to all students in class to get extra practice on the things you already know or the things you want to know better. Your tutor(s) is an undergraduate student who took the class, did well, and received extensive training on how to help you learn! Sessions are one-hour long and available several days a week.

Ask your tutor for more information about session times, visit our [website](#), or visit us [in person at the ARCenter](#) or remotely at our [Virtual Front Desk](#), M-F 9am-6pm. You can also view your Tutor's schedule on [The Tutor Hub](#).

**Academic Integrity:** Communication between students during exams in any form will not be tolerated. Students who participate in such forms of academic dishonesty may face academic sanctions. For more information, visit [http://www.ue.ucsc.edu/academic\\_integrity](http://www.ue.ucsc.edu/academic_integrity).

#### **Assignments and Grading Policy:**

The summer session is very fast paced, so it is vital to do the reading before the lecture and start the HW problems as early as possible. I highly recommend completing the problems at the end of each chapter as additional practice.

#### **Weekly Homework, due Thr 11:59pm (200 points, 40 points each)**

Completing practice problems is essential to learning organic chemistry. The HW is designed to help structure and support your learning throughout this course. The HW assignments are due before Friday lecture and the weekly quiz to encourage you to complete them early. These problems will also be covered in discussion sections with your TA.

HW grading policy:

HW is due on Canvas every week on Thr evening at 11:59 pm

No points docked for late assignments one week past due date

Loss of 20 points after two weeks

Third week no credit

**If you submit all HWs by their original deadline you will receive +20 points on your final grade**

**Weekly Quiz, due Fri 11:59pm (500 points, 100 points each)**

Quizzes are open book and submitted through Canvas. You may use your text or any other written materials for help but you may not seek help from your peers.

Late quizzes accepted until the following Sunday at 11:59 pm with a 50 point reduction

**700 total points**

**Grade Distribution:**

**A:** 90-100%    **B:** 75-89%    **C:** 60-74%    **D:** 50-59%    **F:** < 50%

Borderline cases assigned +/- grades

**Title IX:**

Title IX prohibits gender discrimination, including sexual harassment, domestic and dating violence, sexual assault, and stalking. If you have experienced sexual harassment or sexual violence, you can receive confidential support and advocacy at the Campus Advocacy Resources & Education (CARE) Office by calling (831) 502-2273. In addition, Counseling & Psychological Services (CAPS) can provide confidential, counseling support, (831) 459-2628. You can also report gender discrimination directly to the University's Title IX Office, (831) 459-2462. Reports to law enforcement can be made to UCPD, (831) 459-2231 ext. 1. For emergencies call 911. Faculty and Teaching Assistants are required under the [UC Policy on Sexual Violence and Sexual Harassment](#) to inform the Title IX Office should they become aware that you or any other student has experienced sexual violence or sexual harassment.

Lecture No.	Date	Reading (McMurry 8 <sup>th</sup> edition)	Topic	Assignments
1	M 6/26	chp 1 - 2.6	Structure and bonding, hybridization, MO theory, polarity, formal charge, resonance	
2	W 6/28	chp 2.7 - 3	Acids and bases, functional groups, alkane nomenclature and stereochemistry	
3	F 6/30	Review		Quiz 1, HW 1 (due 6/29)
4	M 7/3	chp 4 - 5.5	cycloalkane nomenclature and stereochemistry, chirality, enantiomers, R/S designation	
5	W 7/5	chp 5.6 - 6	Stereoisomers, reaction mechanisms, describing reactions: equilibria, bond dissociation energies, and intermediates	
6	F 7/7	Review		Quiz 2, HW 2 (due 7/6)
7	M 7/10	chp 7 - 8.8	Structure and reactivity of alkenes, Reactions of alkenes: electrophilic addition, halogenation, hydration, hydrogenation, reduction, oxidation	
8	W 7/12	chp 8.9 - 9	Reactions of alkenes: radical chemistry, reaction stereochemistry, Alkynes: structure, reactivity, and organic synthesis	
9	F 7/14	Review		Quiz 3, HW 3 (due 7/13)
10	M 7/17	chp 10 - 11.6	Preparation, stability, and reactions of alkyl halides, nucleophilic substitution reactions	
11	W 7/19	chp 11.7 - 11.12	Elimination reactions	
12	F 7/21	chp 14	Conjugated compounds and UV spectroscopy	Quiz 4, HW 4 (due 7/20)
13	M 7/24	chp 15	Benzene and Aromaticity	
14	W 7/26	chp 12, 13	Structure determination: overview of mass spectrometry, infrared spectroscopy and nuclear magnetic resonance	
15	F 7/28	Review		Quiz 5, HW 5 (due 7/27)