Syllabus for Organic Chemistry CHEM S220

YSS 2022

**Instructor of record:** Christine DiMeglio, Ph.D., christine.dimeglio@yale.edu

**Preceptor:** Aaron Clark, Ph.D., aaron.m.clark@yale.edu

# Welcome to organic chemistry lecture

This class welcomes participation from any student who has met the prerequisites as described below. Students journey to this course along many different pathways and possess a range of abilities, skills, knowledge, experiences, and expectations. We invite students to ask questions. Your input is necessary to a healthy teaching and learning environment. If you are experiencing a barrier that prevents your full participation in this course, contact me, christine.dimeglio@yale.edu, to discuss strategies for your best performance. We endorse, applaud, and enthusiastically commit to the Chemistry Department Diversity Statement, found here: <https://chem.yale.edu/diversity>

# Canvas

Course content is organized, managed, delivered, and archived at **Canvas, the learning management system employed at Yale**. This allows access to curriculum content to all students, 24/7, throughout the duration of the course. Students are required to use Canvas, and to bring technology for accessing Canvas to class every day.

**Canvas/Modules** is the central hub for accessing all course curricular content. Other important **Canvas** tools include Announcements for sharing course-wide, time sensitive information; **Assignments** for uploading problems for grading; **Quizzes** for taking in-class quizzes using Canvas.

Prerequisites

After two terms of college level general chemistry or exam placement into organic chemistry

# Attendance

In person attendance is **mandatory** in Yale Summer Sessions, including lecture sessions (M-F) and problem solving sessions (M, W, F), at the posted times. Students facing illness, injury, family emergency, or Covid-related isolation will make contact with the instructor and Dean Follansbee by email for emergency response.

# Emergency Absences

When a student needs to be absent for the reasons above, they will contact the instructor if they are absent for 1 day, and Dean Follansbee if their absence is extended to more than 1 day. The student will engage with the asynchronous lecture material in the appointed time slot. The instructor will assign additional study questions for the student to complete and submit following the asynchronous lecture. The student will schedule a Zoom office hour with Dr. Clark for follow up, as needed.

# Student accessibility Services

Students who require accommodations related to timed assessments (quizzes, exams, etc.) work with the Student Accessibility Services Office in advance of the summer term. Students forward their accommodation letter to Christine.dimeglio@yale.edu.. Reach out by email to explain your needs and we will put accommodations in place while awaiting paperwork.

# **Course Scheduled Events (Eastern Time)**

* **Lectures:** M, T, W, T, F: 9:30-10:45 AM. ROOM 160 Sterling Chemistry Lab, 225 Prospect Street

Dr. Christine DiMeglio, facilitator

* **Problem Solving Discussion Session: M, W, F 11am-noon.**

**Dr. Aaron Clark, facilitator**

* **Q and A: Brief time for clarifying lecture points following each lecture, M-F 10:45-11:00 am**

**Drs. Clark and DiMeglio**

* **Email and Zoom: Both tools are employed as needed to engage in Q and A. Questions of interest to the group will be made available to all using the Canvas/Announcements feature.**

# Materials

**Required Materials**

\*Textbook: Organic Chemistry by Marc Louden and Jim Parise, Roberts and Company publishers, 7th ed. ISBN-13 978-1-319-18842-9

**Suggested Materials**

\*Corresponding Solutions Manual: ISBN 9781319363772

Organic molecular modeling kits at amazon.com for inexpensive options (by Mega Molecules as an example*).*

\*\*Please note: you are welcome to use an earlier version of the textbook/solutions manual.

# Schedule

**Topics Lecture/Textbook Chapter**

May 30 Bonding 1A

31 Bonding 1B 10 minute quiz lecture 1A

June 1 Alkanes 2

2 Acids and bases 3A 10 minute quiz lectures 1-2

3 Acids and bases 3B

June 6 Alkenes, alkyne 4A

7 Reaction rates 4B 10 minute quiz lectures 1-4A

8 Addition reactions of alkenes 5A

9 Addition reactions of alkenes, alkyne 5B 10 minute quiz lectures 1-5A

10 Stereochemistry 6A

June 13 Stereochemistry 6B

14 Exam 1 Lectures 1A-6B 75 minute exam

15 Cyclic compounds and stereochemistry 7A

16 Stereochemistry of reactions 7B 10 minute quiz lectures 7A

17 Intermolecular Interactions 8

June 20 Alkyl halides, substitution, elimination 9A

21 Alkyl halides substitution elimination 9B 10 minute quiz lectures 7A-9A

22 Summary of substitution, elimination 9C

 Radical reactions, Grignards, carbenes 10A

23 Alcohols 10B/11 A 10 minute quiz lectures 7A-10A

24

 Reactions of alcohols; 11 B

June 27 Reactions of alcohols 11C

28 Ethers, epoxides, sulfides, glycols CH12A 10 minute quiz lectures 7A-10C

29 Ethers, epoxides, sulfides, glycols CH12B

30 Practice Exam comprehensive

July 1 Exam comprehensive

# Assessments

8 quizzes, drop lowest 2, 30% of grade

1 midterm, 30% of grade

1 final, 40% of grade

# Policy regarding missed assessments

**Students absent for good cause are subject to the policies below**. Students absent without good cause receive assessment scores of zero.

* If absent on a quiz day, this will count toward a dropped quiz.
* If absent on more than two quiz days, take the comprehensive make-up quiz Monday, June 27, 12 noon.
* If absent for Exam 1, you may choose to count the final as 70% of your grade or to take the comprehensive make-up exam on Monday, June 27, at noon.
* Students missing multiple assessments or the final exam will need to discuss their status with YSS Dean Jeanne Follansbee.

# Honor Code and Academic Integrity:

Students must work independently on all assessments in this course.

# **Useful websites**

<http://www.chem.wisc.edu/areas/organic/index-chem.htm>

<http://www.organic-chemistry.org/>

<http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/intro1.htm> (some practice problems with answers)

<http://www.departments.bucknell.edu/chemistry/courses/chem211/problem_sets/> (practice problems with answers for org. chem I)

<http://www.aceorganicchem.com/organic-chemistry-practice-exams.html> (test bank of questions and answers in organic chemistry)

<https://legacyweb.chemistry.ohio-state.edu/flashcards/> (organic chemistry flash cards)

<http://evans.harvard.edu/cgi-bin/problems/search2a_selectKeywords.cgi> (challenging problems in organic chemistry)