

## Provisional Syllabus for Organic Chemistry CHEMS221, Summer 2025

*The Organic Chemistry Laboratory (ChemS223L) will be offered in the 2025 YSS*

<i>Lectures:</i>	M, W, : 9:30-10:45 a.m.: SCL 160 T, Tr: 9:30-11:00 a.m. These lectures are longer because they include additional problem solving F: 9:30-10:45 a.m. followed by demand-led section
<i>Office Hours</i>	After every class and by appointment, Zoom or irl
<i>Instructor</i>	Jonathan Parr, <a href="mailto:jonathan.parr@yale.edu">jonathan.parr@yale.edu</a>

*Required course materials:* Textbook: Organic Chemistry by Marc Louden and Jim Parise, Roberts and Company publishers, 2021 7th ed: Paperback: **ISBN:9781319188429**: Ebook: **ISBN:9781319337315**: Access to a computer with ChemDraw installed.

*Optional course materials* Organic molecular modeling kit. Inexpensive options can be found through popular online suppliers (e.g. Mega Molecules): *Organic Chemistry as a Second Language*; David Klein, ISBN-13: **978-1118010402**

### *Welcome to CHEM S221*

The instructors believe that the class is enhanced and enriched by the participation of students with a diversity of backgrounds and perspectives. Our intent is to respect all participants in the course equally, regardless of gender or gender identity, age, ethnicity, race, culture, religion or socioeconomic status and are especially committed to increasing the representation of those populations that have been underrepresented in the past. Please let us know if you experience any barriers to success in this class and we will work with you to do what can be done to help.

### *Canvas*

Course content is organized, managed, delivered, and archived at <https://canvas.yale.edu/>, the learning management system employed at Yale. Canvas allows students to access curricular content 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/Syllabus describes the course schedule and policies, Canvas/Modules is the central hub for accessing curricular content, and Canvas/Announcements allows for sharing course-wide, time sensitive information.

### *Prerequisites*

This class welcomes participation from any student that has satisfied the appropriate prerequisite, which is Chem220 or equivalent – please check with Parr if you have any questions about your preparedness.

### *Attendance*

Attendance and participation are mandatory in Yale Summer Sessions, including lecture sessions, problem-solving sessions, and assigned asynchronous lectures. We may utilize both in-person and remote modalities during the term, so students need access to zoom software and reliable internet access. Students facing illness, injury, family emergency, or similar must contact the instructor ([Jonathan.parr@yale.edu](mailto:Jonathan.parr@yale.edu)) and Dean Alexander Rosas by email as soon as possible.

### *Emergency Absences*

When a student needs to be absent for the reasons given above, they will contact the instructor if they are absent for one (1) day, and Dean Alexander Rosas if their absence is extended to more than one (1) day. The plan of action will vary with circumstances.

### Student Accessibility Services

Students with accommodations related to the course must be registered with the Student Accessibility Services Office in advance of the summer term. Individual students are responsible for forwarding their letter from SAS, to [Jonathan.parr@yale.edu](mailto:Jonathan.parr@yale.edu). Please reach out by email at as early a date as may be to begin the discussion of your needs and accommodations will be put in place while awaiting paperwork.

### Lecture Schedule (provisional)

Date	Lecture Topic	Textbook
June 30	Nuclear Magnetic Resonance What is it and how does it work?	14.1-.4 1
July 1	Nuclear Magnetic Resonance What information can NMR give us?	14.5-.9 2
July 2	Dienes, resonance and aromaticity	28.2, 15.3
July 3	How double bonds interact to show new behaviors	15.4 4
July 4	Dienes, resonance and aromaticity Characteristic reactions of conjugated systems	15.4-.7 5
July 7	The chemistry of benzene and its derivatives	16.4 6
July 8	The chemistry of benzene and its derivatives	16.5,.6 7
July 9	Allylic and benzylic reactivity	17 8
July 10	The chemistry of aryl and vinylic halides; transition	18.1-.3, .5,.6
July 11	Transition metal catalysis; Phenols and NAS	18.1-.3, .5,.6 18.4, .7-.11
July 14	The chemistry of aldehydes and ketones	19.1-.8 11
July 15	The chemistry of aldehydes and ketones	19.8-15 12
July 16	The chemistry of carboxylic acids	20
July 17	Midterm test	
July 18	The chemistry of carboxylic acids	20
July 21	The chemistry of carboxylic acid derivatives	21.5,.7
July 22	The chemistry of carboxylic acid derivatives	21.8-.11
July 23	The chemistry of enolates, enols and $\alpha,\beta$ -unsaturated carbonyl compounds	22.6-8 18
July 24	The chemistry of enolates, enols and $\alpha,\beta$ -unsaturated carbonyl compounds	22.6-8 18
July 25	The chemistry of enolates, enols and $\alpha,\beta$ -unsaturated	22.9-.12 19
July 28	The chemistry of amines	23.11,.7-.9
July 29	The chemistry of amines	23.10-.12
July 30	The chemistry of amines	23.10-.12
July 31	Review	
Aug 1	Final Exam: Cumulative	

### Assessments

Exam 1 (30%) and Exam 2 (30%).

The lowest quiz score will be dropped. Quizzing is worth 30%.

Participation (10%)

Students missing multiple assessments, or Exam 2, will need to discuss their status with YSS Dean Alexander Rosas.

**STUDENTS WITH ACCOMMODATIONS SHOULD COMMUNICATE WITH THE INSTRUCTORS  
BY EMAIL THE FIRST WEEK OF CLASS .**

**Honor Code and Academic Integrity:** Students are welcome use any resources they choose, anytime they choose, except during Exams. On exams, students must work independently, without communicating with other people in any form whatsoever. Details of the academic regulations can be seen [here](#).