



# USC University of Southern California

## Chem 251x: Organic Chemistry Tutorial B (2 Units) Spring 2021

**Class Meetings:** This class is offered online. Synchronous class meetings will be held via Zoom on Mondays 9:30am-10:50am.

**Instructor:** Prof. Rebecca M. Broyer

**Office Hours:** Posted to Blackboard

**Contact Info:** [rbroyer@usc.edu](mailto:rbroyer@usc.edu)

### Course Description

The purpose of CHEM 251 is to strengthen the problem-solving skills needed to succeed in Chem 322B. This class provides a discussion section format to accompany Chem 322B. This course will provide you with valuable problem-solving strategies.

Chem 251 will expand on the fundamental principles taught in the first semester course. The focus will explore critical concepts. The core content will take a mechanistic approach to predicting products and solving synthesis problems.

### Learning Objectives

The learning objectives for this course are aligned with those of 322b. It is the overall intention of this course for students to learn how to apply concepts they learn to new situations and problems by forming effective problem-solving strategies. At the end of this experience, successful students will achieve a definitive command of essential concepts of molecular structure and bonding. These include:

- The intrinsic electrophilicity of the carbonyl group, carbonyl addition reactions, and the structure of carbonyl derivatives.
- Enolization, aldol and Claisen reactions of enolates, and the rudiments of polyketide synthesis.
- The electronic structure and reactivity of aromatic compounds.
- The richly complex nature of amines and imines.
- The structure and behavior of simple carbohydrates.
- The molecular nature of proteins.

### Concurrent Enrollment:

322bL

### Required Materials

All materials will be provided on the course Blackboard.

## Optional Materials

"Organic Chemistry As a Second Language: Second Semester Topics" 4th Edition by David Klein

## Description and Assessment of Assignments

### Structure

Each week a worksheet will be provided. The worksheet will include some review material from the lectures in Chem 322B the previous week. There will be problems that are designed to improve problem-solving skills and emphasize the key concepts. The problems will be worked in small breakout groups. Groups of 3 or 4 will be the most effective. The worksheets will not be turned in, but answers will be provided at the end of the class period.

### Homework

There will be a weekly homework assignment that will be distributed online and due Mondays (with some exceptions) at 9am. The homework assignment will be graded in two parts: 5 points for a randomly-chosen problem completed correctly; 5 points for completion of the entire assignment. Note: If the randomly chosen problem is not completed, you will receive a zero on the assignment. It is recommended that you complete every assigned problem on every assignment. Homework will be submitted via Blackboard. While Blackboard will allow submissions after the deadline, these late assignments will not be scored.

### Grading Breakdown

| Assignment         | Points     |
|--------------------|------------|
| Worksheets 13 X 20 | 260        |
| Homework 12 X 10   | 120        |
| <b>Total</b>       | <b>380</b> |

### Grading Scale

You will earn the grade CR (credit) in the class if you:

1. Attend and participate in 10/13 classes
2. Submit 9/12 Homework assignments
3. Accumulate at least 275 points throughout the semester and you will earn the grade CR (credit) in the class.

### Assignment Submission Policy

Homework assignments are due by noon on Mondays. All homework must be submitted to Blackboard. Neither late homework nor non Blackboard submissions will be accepted. There are no make ups for in-class work.

### Grading Timeline

Graded homeworks will be returned one week after they are submitted.

### Technology in the classroom

An internet-enabled device is required (cell phone, laptop, tablet). You will also need to upload homework and assignments, as a PDF. A scanner or software to convert pictures to PDFs.

**Academic integrity**

All work submitted in this course must be your original work. You may not use outside sources for answers to assignments (for example, pre-lab questions, lab reports, quiz questions, homework assignments, etc.). While you may collaborate with others on laboratory work and homework assignments, work must be in your own words and reflect your good-faith efforts. It is never acceptable to use outside “tutors” or others to furnish answers for you (for example, you may not consult Chegg.com, reddit, CourseHero, etc.). Please familiarize yourself with the discussion of plagiarism and other forms of academic dishonesty in SCampus in Part B, Section 11, “Behavior Violating University Standards” [policy.usc.edu/scampus-part-b](https://policy.usc.edu/scampus-part-b). See additional information in SCampus and university policies on scientific misconduct, [policy.usc.edu/scientific-misconduct](https://policy.usc.edu/scientific-misconduct).

**Attendance**

Attendance is required. There are no make-ups for missed in-class work.

**Course evaluation**

Students will submit confidential course evaluations, available online during week 13. More information will be provided in lecture

**Course Schedule: A Tentative Weekly Breakdown**

The course will follow your 322B weekly schedule as closely as possible

|                                       | Topics                                    | Readings       | Assignments  |
|---------------------------------------|---|----------------|--|
| <b>Week 1</b><br>Jan18-24             | Course Intro; Chapter 15                  | See blackboard | MLK no class   |
| <b>Week 2</b><br>Jan25-31             | Chapter 15/Chapter 16                     | See blackboard | Worksheet, Homework  |
| <b>Week 3</b><br>Feb 1-7              | Chapter 16                                | See blackboard | Worksheet, Homework  |
| <b>Week 4</b><br>Feb 8-14             | Chapter 16                                | See blackboard | Worksheet, Homework  |
| <b>Week 5</b><br>Feb 15-21            | Presidents day no class, Ch. 17           | See blackboard |  |
| <b>Week 6</b><br>Feb 22-28            | Chapter 17                                | See blackboard | Worksheet, Homework  |
| <b>Week 7</b><br>March 1 -7           | Chapter 17/Chapter 18                     | See blackboard | Worksheet, Homework  |
| <b>Week 8</b><br>Mar 8-14             | Chapter 18                                | See blackboard | Worksheet, Homework<br><b>March 12-Wellness day</b>        |
| <b>Week 9</b><br>Mar 15-21            | Chapter 18/Chapter 19                     | See blackboard | Worksheet, Homework  |
| <b>Week 10</b><br>Mar22-28            | Chapter 19                                | See blackboard | Video Quizzes, Homework<br><b>March 23- Wellness day</b>   |
| <b>Week 11</b><br>Mar 29 –<br>Apr 4   | <b>Group Assignment</b><br>Chapter 20     | See blackboard | Worksheet, Homework<br><b>Reaction Analysis Assignment</b> |
| <b>Week 12</b><br>Apr 5-11            | Chapter 20/Chapter 21                     | See blackboard | Worksheet, Homework<br><b>April 7-Wellness day</b>         |
| <b>Week 13</b><br>Apr12-18            | Chapter 21                                | See blackboard | Worksheet, Homework  |
| <b>Week 14</b><br>Apr19-26            | Chapter 21/Chapter 24                     | See blackboard | Worksheet, Homework<br><b>April 22 Wellness Day</b>        |
| <b>Week 15</b><br>Apr 27 –<br>May 2   | <b>Group Assignment</b><br>Special Topics | See blackboard | Worksheet<br><b>April 30-Wellness day</b>                  |
| Final Poster Due Thursday May 6, 10am |   |                |  |

## Statement on Academic Conduct and Support Systems

### Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” [policy.usc.edu/scampus-part-b](http://policy.usc.edu/scampus-part-b). Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

### Support Systems:

*Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call*

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. [engemannshc.usc.edu/counseling](http://engemannshc.usc.edu/counseling)

*National Suicide Prevention Lifeline – 1 (800) 273-8255*

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. [www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org)

*Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call*

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. [engemannshc.usc.edu/rsvp](http://engemannshc.usc.edu/rsvp)

*Sexual Assault Resource Center*

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: [sarc.usc.edu](http://sarc.usc.edu)

*Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086*

Works with faculty, staff, visitors, applicants, and students around issues of protected class. [equity.usc.edu](http://equity.usc.edu)

*Bias Assessment Response and Support*

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. [studentaffairs.usc.edu/bias-assessment-response-support](http://studentaffairs.usc.edu/bias-assessment-response-support)

*The Office of Disability Services and Programs*

Provides certification for students with disabilities and helps arrange relevant accommodations. [dsp.usc.edu](http://dsp.usc.edu)

*Student Support and Advocacy – (213) 821-4710*

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. [studentaffairs.usc.edu/ssa](http://studentaffairs.usc.edu/ssa)

*Diversity at USC*

Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. [diversity.usc.edu](http://diversity.usc.edu)

*USC Emergency Information*

Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. [emergency.usc.edu](http://emergency.usc.edu)

*USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.*

Provides overall safety to USC community. [dps.usc.edu](http://dps.usc.edu)

