



USC University of Southern California

Chem 221: Fundamentals in Organic Chemistry (2.0 Units) Summer 2021

Class Meetings: This class is offered **online**. Additional asynchronous course content will be posted on the course Blackboard site. Synchronous class meetings will be held via Zoom on Monday- Thursday, 12pm-1:35pm. Synchronous participation is recommended however some students have participated asynchronously in the past.

Instructor: Prof. Rebecca Broyer

Office Hours: TBA

Contact Info: rbroyer@usc.edu (preferred contact method)

Course Objectives:

This course is designed to bridge the gap between general and organic chemistry and to prepare students better for CHEM 322a. The material and pace are designed to develop a foundation in organic chemistry (as opposed to the majority of American college sophomores who receive little or no exposure). CHEM 221 is also recommended for those who struggled with general chemistry or who may have not taken it for a few years. This class will focus on problem-solving skills and understanding the language of organic chemistry.

Prerequisite(s):

A passing grade in CHEM 105b (second semester general chemistry) or equivalent course.

Required Materials

There is no required textbook for this class. All required materials are provided electronically.

Optional Materials

- i. Organic Chemistry I as a Second Language: Translating the Basic Concepts, by Klein
- ii. Any molecular modeling kit

The Klein text is very inexpensive and highly recommended. It is highly recommended in CHEM 322a. Molecular models are very useful for understanding stereochemistry and some professors allow you to use them during exams.

Description and Assessment of Assignments

Assignments include online homework and web quizzes. Students who miss three or more assignments or who miss the quizzes will automatically receive a grade of No Credit for the course regardless of their performance.

Grading Breakdown

Your course grade will be scaled to 1000 points. Your grade will be determined according to the following distribution:

Assignment	% of Grade
In Class Work	20%
Homework	40%
Quizzes	40%
TOTAL	100%

To receive a passing grade, you must earn 60% of the points in the class. You are encouraged to check your grades on Blackboard.

Gradescope: You must scan and upload your assignments to Gradescope. <http://www.gradescope.com>. You will be sent an invitation from the instructor of the course.

Grading Scale

Course final grades will be determined using the following scale:

Course Notes

Lecture notes will be available on Blackboard.

Office Hours

Office hours (via Zoom) will be posted on the class website.

Assignment Submission Policy

Quizzes, Homework assignment and exams must be submitted by the stated deadlines. Late assignments will not be accepted.

Grading Timeline

Graded work will be available for review on Blackboard/Gradescope within 48 hours of the due date. You can view your grades at any time on the Blackboard site.

Additional Policies

Live Zoom Sessions

The class will meet four times a week (M-Th 12:00pm-1:30pm) for synchronous work. You are expected to attend and participate in the class. Time will be spent solving problems and asking any questions you have about the material.

Quizzes

Concept Quizzes and Surveys: Four weekly multiple-choice webquizzes will be given to assess your understanding of the course material. Webquizzes open on Thursday 2:30 pm and must be submitted by Friday at 11:59 pm PST. **You may only open a webquiz once; once opened a 60-minute countdown immediately begins that cannot be paused, even if you log off.**

Homework

Homework is assigned Monday-Wednesday and reflects material covered in lecture each day. Homework assignments unlock at the end of a lecture and must be submitted to the class website within 48 hours after they open. Late assignments will not be accepted for any reason.

In Class Work

Students will complete work assigned during class time, such as small group assignments, open-notes quizzes, and polls that count towards their in-class work grade. Credit will be given for thoughtful completion. In-class work may be assigned at any point during the class. Daily in-class participation will be monitored using polleverywhere system. You will earn full credit for participation if you answer 75% of the questions presented throughout the semester. For students answering less than 75% of the questions, participation scores will be adjusted accordingly. This is to account for unexpected absences or technical difficulties. There are no make ups for any reason.

Gradescope

Some assignments must be scanned and uploaded to Gradescope. <http://www.gradescope.com>. You will be sent an invitation from the instructor of the course.

Classroom norms

Listen actively and attentively.

Be courteous. Don't interrupt or engage in private conversations while others are speaking. Ask for clarification if you are confused.

Academic Integrity

All work submitted in this course must be your original work. You may not use outside sources for answers to assignments. 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. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct. The posting of course materials (including Zoom recordings, quiz questions or answers, workbook content, lab reports or quizzes, or any other course-related content) to ANY internet site is strictly prohibited. Seeking outside help during quizzes is a violation of the USC Honor Code. Posting of course material is a violation of US copyright law and the USC Student Conduct Code.

Course evaluation

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

Tentative Schedule

We will meet Friday July 9 to make up for Monday July 5

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
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July 5 to July 9 <i>*no meeting Mon 5</i>	6(Tu) Introduction Lewis Structures HW#1	7 (W) Hybridization VSEPR Theory HW #2	8 (Th) Structural Formulas (Recording posted) HW #3	9 (F) Molecular Geometry and Polarity Recording only QUIZ 1
July 12 to July 16	Arrow Pushing HW #4	Resonance HW#5	Acids and Bases HW#6	Alkanes and Cycloalkanes QUIZ 2
July 19 to July 23	Functional Groups HW #7	IUPAC HW #8	Conformations HW #9	Stereochemistry R/S Notation QUIZ 3
July 26 to July 30	Stereochemistry Isomerism HW #10	Substitution HW #11	Elimination HW #12	NMR QUIZ 4

More Problems The following are suggested practice problems from the Klein text listed by lecture number. These will greatly improve your understanding of the course material, however they will be neither collected nor graded.

1. 1.34 – 45, 1.47 – 52, 1.54 – 1.68
2. 4.2 – 4.8, 4.10 – 4.17
3. 1.2 – 1.11, 1.13 – 1.24
5. 2.2 – 2.12
6. 2.14 – 2.19, 2.21 – 2.28, 2.32 – 2.73
7. 3.2 – 3.5, 3.7 – 3.12, 3.16, 3.19 – 3.31, 3.33, 3.35 – 3.37, 3.39 – 3.46
10. 5.19 – 5.26, 5.29 – 5.34, 5.36, 5.37, 5.47, 5.48, 5.50 – 5.55, 5.57 – 5.59, 5.61, 5.65, 5.66
11. 6.2 – 6.7, 6.9, 6.10 – 6.14, 6.16 – 6.21, 6.24 – 6.29, 6.31 – 6.36, 6.38 – 6.45
- 12,13 7.2 – 7.7, 7.9 – 7.12, 7.14, 7.15, 7.17 – 7.19, 7.21, 7.22 – 7.35, 7.37 – 7.42, 7.44 – 7.47, 7.51 – 7.53, 7.65 – 7.70, 7.72 – 7.74, 7.76 – 7.81
14. 8.9, 8.10, 8.14, 8.23, 8.24, 9.2 – 9.5, 9.7 – 9.10, 9.13 – 9.17, 9.20, 9.22 – 9.24, 9.29 – 9.33
15. 8.11, 8.12, 10.1 – 10.4, 10.6 – 10.9, 10.11 – 10.14, 10.23 – 10.27, 10.29 – 10.31, 10.33 – 10.36

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. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call

studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call

studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298

equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

usc-advocate.symplcity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support and Intervention - (213) 821-4710

campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.