

CHEM 3331, Fall 2019
Organic Chemistry 2

Professor Wei Zhang, Wei.Zhang@colorado.edu

Lecture (CHEM 3331-100): Mon/Wed/Fri, 9:00 – 9:50 AM, HALE 270

Course websites: <https://www.colorado.edu/lab/zhanggroup/chem-3331>

Lab Coordinator: Dr. Jacqueline Richardson, Ekeley M1B48

Recitation TAs: Lacey Wayment, Zepeng Lei, Shaofeng Huang, Michael Ortiz, Hongxuan Chen

Pre-requisites and co-requisites

Pre-requisite: To enroll in this course, you must have received a grade of C- or better in CHEM 3311 or CHEM 3351.

Students not meeting the prerequisites will be administratively dropped from the course. In the event of unusual circumstances, please speak with Professor Zhang in person.

Co-requisite: CHEM 3341 (or CHEM 3381) is a 1-credit laboratory course that is **graded independently** from CHEM 3331.

Students missing the first lab session may be dropped from lecture and laboratory courses. Contact Dr. Jacqueline Richardson (Jacqueline.richardson@colorado.edu) in Ekeley M1B48 for lab-related questions. Professor Zhang is not involved in the lab course.

Office Hours

- Weekly review sessions: 5:00-6:00PM on Tuesdays (starting from 2nd week), EKLC M203
- Office hours: 1:00-2:00PM on Fridays, EKLC M343 or M376.
- **During exam weeks, review sessions will be held at 1:15-2:15 PM on Sundays: Sept 22 (Duan G1B20), Oct 20 (Duan G1B20), Nov 17 (Duan G1B20).**

Recitation Sections

Attendance is mandatory, as quizzes will be administered during recitation.

Section	Day	Time	Room	TA
135	Wed	1-2	EKLC M2B36	Lacey Wayment
136	Wed	2-3	EKLC M2B36	Zepeng Lei
137	Wed	3-4	EKLC M2B36	Lacey Wayment
141	Thu	9-10	EKLC M2B36	Shaofeng Huang
142	Thu	10-11	EKLC M2B36	Michael Ortiz
143	Thu	11-12	EKLC M2B36	Hongxuan Chen
144	Thu	12-1	EKLC M2B36	Lacey Wayment

Text & Other Materials

Marc Loudon, *Organic Chemistry*, 6th edition (required); the accompanying solutions manual is highly recommended.

Assigned problems will be referenced to the 6th edition of the text. A molecular modeling kit for organic chemistry, available in the campus bookstore, is highly recommended as a learning tool.

Lectures

We will cover Chapters 14-23. Approximate schedule is shown on the next page.

Grading

Your grade in the course will be assessed using your performance on these mandatory activities:

Three (3) hour exams, 100 points each	300
Cumulative final exam, 200 points	200
Recitation quizzes (5 best of 7)	75
Sapling Online (Electronic) Homework (8 best of 10)	75
Total points	650

Exams

Exams will be held according to the following schedule:

Exam 1	Tuesday, September 24	7:00 – 8:00 PM	CHEM 142
Exam 2	Tuesday, October 22	7:00 – 8:00 PM	CHEM 142
Exam 3	Tuesday, November 19	7:00 – 8:00 PM	CHEM 142

There are **NO MAKE-UP EXAMS** and **no alternative testing times** *unless you have a documented disability (see Disability Accommodation, below).*

All exams are cumulative, with an emphasis on material covered since the last exam. The final is comprehensive and cumulative. **The use of model kits is not allowed during exams.** Hour exams will cover the material presented in lecture and recitation through the previous Friday, and recommended/assigned homework problems may appear on the exam. An exam archive is available at <http://www.orgchemboulder.com/>.

IMPORTANT: The exam format could be considerably different from that on exams posted in the archives. The rationale for the change is to facilitate equity in grading by the teaching assistants and the instructor, and to minimize grading errors. In addition, the instructor pledges that he will quickly look over all graded exams before they are returned to the students. Despite our most genuine efforts, errors in grading may arise. Please contact me **DURING OFFICE HOURS** if there is an error in adding your points or an egregious error in grading your response.

Recitation Quizzes

Quizzes will be given in recitation according to the following tentative schedule:

- Q#1**, Sept 9-13
- Q#2**, Sept 16-20
- Q#3**, Sept 30-Oct 4
- Q#4**, Oct 14-18
- Q#5**, Oct 28-Nov 1
- Q#6**, Nov 11-15
- Q#7**, Dec 2-6

The best five scores will count towards your grade in the course. There will be NO MAKE-UP QUIZZES. Recitation quizzes are intended to provide feedback on your mastery of the material and level of preparation for exams; our experience has shown that students perform better on exams when graded quizzes alert them to mistakes and misconceptions prior to the exam. Success in organic chemistry is related to both understanding the content (not just rote memorization) and frequent drill and practice that is not biased by worked out solutions to problems.

Electronic Homework (Sapling Learning - Organic Chemistry Question Sets)

We will be using Sapling Learning for our homework. To get started:

1. Go to <http://saplinglearning.com>
2.
 - a. If you already have a Sapling Learning account, log in, click "View Available Courses", then skip to step 3.
 - b. If you have a Facebook account, you can use it to quickly create a Sapling Learning account. Click "create account" located under the username box, then click "Login with Facebook". The form will auto-fill with information from your Facebook account (you may need to log into Facebook in the popup window first). Choose a password and timezone, accept the site policy agreement, and click "Create my new account". You can then skip to step 3.
 - c. Otherwise, click "create account" located under the username box. Supply the requested information and click "Create my new account". Check your email (and spam filter) for a message from Sapling Learning and click on the link provided in that email.
3. Find your course in the list (listed by school, course, and instructor) and click the link:
[University of Colorado, Boulder - CHEM 3331 - Fall19 - ZHANG](#)
The following is the enrollment code:
CHEM 3331-100 section: 3331-100
4. Select your payment options and follow the remaining instructions.
 - Once you have registered and enrolled, you can log in at any time to complete or review your homework assignments.
 - During sign up - and throughout the term - if you have any technical problems or grading issues, please fill out the support request form, <http://www.macmillanlearning.com/Catalog/techsupport>, for assistance from our dedicated student support team.

Your eight (8) best assignments out of 10 will count for 75 course grade points. We strongly encourage you to work on assignments after you have completed your reading and drill and practice; work on these as if you were taking a quiz or exam. Please share with us your experiences with this e-homework system.

Practice problems Success in organic chemistry is directly related to working problems and understanding (not memorizing) the process in solving them. The point of working problems is to become more comfortable with applying the concepts

discussed in lecture to new situations. Recommended homework problems from the text are listed below. These problems will not be collected or graded; they are for your benefit. Do as many of them as possible! Some of these assigned problems could appear on the recitation quizzes or on the exams.

Chapter and Title with Reading Assignment	Recommended Problems
CH 14: The Chemistry of Alkynes; 14.1-14.2; 14.4-14.8	14.2; 14.1; 14.9 - 14.10; 14.11; 14.12-14.16; 14.18 - 14.23; 14.26; 14.27; 14.31; 14.33; 14.34 c-g; 14.38
CH 15: Dienes, Resonance, and Aromaticity; 15.1; 15.3; 15.4; 15.6; 15.7	15.3; 15.5; 15.13-15.26; 15.28; 15.31; 15.32; 15.34; 15.36; 15.38; 15.43; 15.45; 15.47; 15.49; 15.61; 15.62; 15.65; 15.69; 15.74; 15.79
CH 16: The Chemistry of Benzene and Its Derivatives; 16.1; 16.2; 16.4; 16.5; 16.6	16.2; 16.12 - 16.27; 19.30-16.33; 16.43; 16.45; 16.46; 16.48; 16.54; 16.55
CH 17: The Allylic and Benzylic Reactivity; 17.1; 17.2; 17.3; 17.4; 17.5	17.1 - 17.9; 17.22; 17.23; 17.26; 17.30; 17.49
CH 18: The Chemistry of Aryl Halides, Vinylic Halides, and Phenols, Transition-Metal Catalysts; 18.1 - 18.4; 18.7	18.1 - 18.5; 18.30; 18.31; 18.46 a-d; 18.47 a-g; 18.49; 18.53 a-e; 18.55
CH 19: The Chemistry of Aldehydes and Ketones, Carbonyl-Addition Reactions; Intro; 19.1; 19.2; 19.4 - 19.14	19.12 - 19.17; 19.18; 19.18-19.20; 19.23-19.31; 19.33-19.41; 19.44 - 19.48; 19.50; 19.52; 19.55; 19.56; 19.64.
CH 20: The Chemistry of Carboxylic Acids; Intro; 20.2; 20.4- 20.11.	20.3; 20.7 - 20.25; 20.28; 20.38; 20.47; 20.48; 20.50; 20.52a, b, c, d, f
CH 21: The Chemistry of Carboxylic Acid Derivatives; 21.1 - 21.3; 21.5 - 21.11	21.5; 21.6; 21.9 - 21.16; 21.18, 21.20 - 21.22; 21.24-21.28; 21.32 - 21.35; 21.37; 21.39; 21.40b; 21.41; 21.44
CH 22: The Chemistry of Enolate Ions, Enols, and α , β -Unsaturated Carbonyl Compounds; 22.1 - 22.5; 22.7 - 22.11	22.1 - 22.3; 22.5; 22.7; 22.8; 22.10; 22.11a; 22.12; 22.13a; 22.14a, c; 22.15 - 22.19; 22.21, 22.21; 22.22a, c, d, e, g, h; 22.23; 22.24; 22.26-22.29; 22.30a, c; 22.31; 22.35; 22.36; 22.38; 22.37; 22.40; 22.41a; 22.42; 22.46; 22.47a, c; 22.48b; 22.49a; 22.51; 22.52; 22.53a; 22.54a, c; 22.55; 22.56; 22.58a, c; 22.60 - 22.62; 22.64-22.67; 22.70a; 22.71; 22.73; 22.75; 22.76; 22.70a, c; 22.78; 22.82; 22.87a, b, f, g; 22.88
CH 23: The Chemistry of Amines; 23.5; 23.7b; 23.11d	23.7; 23.8; 23.17; 23.18; 23.22; 23.41

Class Discussion Platform (Piazza)

We'll be conducting all class-related discussions on Piazza (www.piazza.com) in this term. Piazza is a question-and-answer platform specifically designed to get you answers fast. They support LaTeX, code formatting, embedding of images, and attaching of files. The quicker you begin asking questions on Piazza (rather than via individual emails to a classmate, the instructor, or one of TAs), the quicker you'll benefit from the collective knowledge of your classmates and instructors. We encourage you to ask questions when you're struggling to understand a concept—you can even do so anonymously. Find our class page at: <https://piazza.com/colorado/fall2019/chem3331100/home>

See the following New York Times article to learn more about their founder's story:

<http://www.nytimes.com/2011/07/04/technology/04piazza.html>

Disability Accommodation

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services as soon as possible but no later than ONE WEEK prior to the exam so that your needs be addressed. Please meet me during office hours to discuss these special accommodations; I prefer not to be contacted about these sensitive issues before or after lecture.

Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and <http://www.Colorado.EDU/disabilityservices>

Classroom Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at

<http://www.colorado.edu/policies/classbehavior.html> and at
http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

Honor Code

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>.

Cheating

The University of Colorado and the Department of Chemistry have clear policies on academic integrity and honesty. These policies will be rigorously enforced in this course. Cheating on an exam or quiz or any other required activity will result in a grade of zero for that activity, possible grade of “F” for the course and reporting the incident to the Honors Council.