

CHEM 3381 Organic II Majors Lab Syllabus, Fall 2020

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COVID Safety

This is going to be a very unusual semester. My goal is to provide flexibility, so that you can attend classes either remotely or in-person, whichever you feel more comfortable with.

1. All assignments will be handled through Canvas in order to minimize transmission risk through paperwork.
2. Most lab sections will be in-person, but with about half the normal number of students. The [course website](#) has an experiment schedule available.
3. All Chemistry labs will meet remotely during the first week, over a Zoom link that will be provided by your TA. During this first week, we'll cover the syllabus for the class and the procedures used to minimize COVID risks. The first in-person meeting will be Tuesday during the second week of the semester.
4. There are no 3381 lab sections that are officially listed as fully-remote. However, you can still choose to go remote at any point and just do your lab reports based on videos for a while if you need or want to. In this case, you will watch a 10–15-minute video of a TA performing the lab, then write up a lab report based on their data. The downside is that there is no perfect replacement for learning new lab techniques hands-on, and you might have a harder time if you need to use these skills for future lab work. This option is also not available for the independent synthesis projects (mid-October through mid-November), since everybody will be doing their own unique project.
5. If you are choosing to attend labs in-person, you are required to fill out a Daily Health Questionnaire every day before you come onto campus. If you feel even slightly ill, stay home! Please follow the CU Requirements listed below.
6. NEVER enter the building without a mask! Masks are required everywhere on campus, even outdoors. This is campus policy (see <https://www.colorado.edu/protect-our-herd>). There are exceptions for socially distanced eating and drinking in designated places on campus, and for private offices with the door closed. Your mask must also protect others. For example, masks with exhalation valves, bandannas, and neck gaiters do not protect others and are not permitted.
7. A building traffic flow map for Ekeley is posted on the course website at www.orgchemboulder.com. Please make sure you enter the building at the designated entrance (i.e., the corner closest to Norlin library). You can leave the door open for others to enter the building; they don't all have to individually card swipe in.
8. Please bring a device that can run Zoom, so you can participate remotely if the instructor has to make a last-minute switch to remote instruction because of slight illness.
9. If you're waiting to enter a room, please stand on the Xs in the hallway. Once the marked Xs are occupied in the hallways, you must wait outside the building entrance.
10. Eating and drinking are prohibited in all classrooms and hallways. You should bring a water bottle because you must go outside the building and maintain 6-foot distancing from others to take a drink.
11. The help room will be held over Zoom and staffed by TAs throughout the week (see <http://www.orgchemboulder.com/About>).

CU REQUIREMENTS FOR COVID-19

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements, and public health orders in place to reduce the risk of spreading infectious disease. Required safety measures at CU Boulder relevant to the classroom setting include:

- maintain 6-foot distancing when possible,
- wear a face covering in public indoor spaces and outdoors while on campus consistent with state and county health orders,
- clean local work area,
- practice hand hygiene,
- follow public health orders, and

- if sick and you live off campus, do not come onto campus (unless instructed by a CU Healthcare professional), or if you live on-campus, please alert [CU Boulder Medical Services](#).

Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to [Student Conduct and Conflict Resolution](#). For more information, see the policies on [COVID-19 Health and Safety](#) and [classroom behavior](#) and the [Student Code of Conduct](#). If you require accommodation because a disability prevents you from fulfilling these safety measures, please see the “Accommodation for Disabilities” statement on this syllabus.

Before returning to campus, all students must complete the [COVID-19 Student Health and Expectations Course](#). Before coming on to campus each day, all students are required to complete a [Daily Health Form](#).

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home and complete the [Health Questionnaire and Illness Reporting Form](#) remotely. In this class, if you are sick or quarantined, you can continue to attend remotely. If you miss assignments as a result of illness, they will be handled as described below.

Experiment Schedule

Days	#	Experiment
Tue, Aug. 25		Syllabus, COVID safety & NMR review
Thu, Aug. 27		No labs
Tue Sep. 1	31	Check-in & Large-Scale Column Chromatography
Thu, Sep. 3	32	Alkyne Formation
Tue, Sep. 8	33	Halogenation of Alkanes
Thu, Sep. 10	34	Substitution Kinetics
Tue, Sep. 15	35	Oxidation of a Diol
Thu, Sep. 17	14	Epoxidation of Cholesterol (Setup for Grubbs)
Tue, Sep. 22	36	Grubbs Metathesis
Thu, Sep. 24	37	Palladium Coupling (Start preparing for Multistep Synthesis Projects)
Tue, Sep. 29	15	Diels-Alder Reaction
Thu, Oct. 1	38	Aromatic Multistep Synthesis, day 1
Tue, Oct. 6	38	Aromatic Multistep Synthesis, day 2 (Project proposal & materials request due)
Thu, Oct. 8	38	Aromatic Multistep Synthesis, day 3
Tue, Oct. 13	39	Nucleophilic Aromatic Substitution (Setup for Frambinone)
Thu, Oct. 15	40	Coumarin Dyes
Tue, Oct. 20	41	Synthesis of Frambinone, day 1
Thu, Oct. 22	41	Synthesis of Frambinone, day 2
Tue, Oct. 27	42	Multistep Synthesis Project, day 1
Thu, Oct. 29	42	Multistep Synthesis Project, day 2
Tue, Nov. 3	42	Multistep Synthesis Project, day 3
Thu, Nov. 5	42	Multistep Synthesis Project, day 4
Tue, Nov. 10	42	Multistep Synthesis Project, day 5
Thu, Nov. 12	42	Multistep Synthesis Project, day 6
Tue, Nov. 17	42	Multistep Synthesis Presentations
Thu, Nov. 19	42	Multistep Synthesis Presentations & Checkout
Tue, Nov. 24		No labs
Thu, Nov. 26		No labs
Tue, Dec. 1		Final quiz
Thu, Dec. 3		No labs

List of Sections

Section	Day	Time	Location	TA	TA Email
401	TR	10:20 AM-1:10 PM	EKLC M1B35	Yiming Hu	Yiming.Hu@colorado.edu
411	TR	1:50 PM-4:40 PM	EKLC M1B35	Micah Ohlhausen	Micah.Ohlhausen@colorado.edu

Grading

Canvas: This course will use Canvas, which can be accessed at canvas.colorado.edu. Grades will be posted here, as will a complete list of assignments and the points value for each. You can check the grades of individual items against your own records to make sure they're correct, but your course total might not reflect any excused absences or curves.

Lab Reports: For directions on how to write lab reports, see Chapter 4 in the Lab Handbook and the example lab report on the course website. During the spring and fall semesters, lab reports are due one week after you perform the experiment.

Quizzes: Quizzes cover assigned reading, procedures, and Experiment Manual study questions. They are due on Canvas at the starting time for your lab, but you can complete them at any point before then. The study questions from the Experiment Manual are designed to help you prepare for the quizzes, and they have answers posted on the course website. You don't need to turn in the answers to study questions in your lab reports but they are helpful for studying.

Regrades: Please keep all of the graded work that is returned to you so that it can be checked in the case of a discrepancy with your TA's grade records. If you notice a missing or erroneous grade on a quiz or lab, you must bring it to your TA's attention within two lab periods of the graded document being returned to the class, whether you are there to receive it or not. After this point, no regrades will be accepted.

Late work: If you turn in any item late, you will lose 10% of the maximum possible points per day or partial day. For instance, a 20-point assignment will have 2 points deducted for each day that it is late. In this case, the assignment will be dated from the time you send the email. In order to submit final grades on time, no late work will be accepted after the final quiz is due for the course.

Curving: At the end of the semester, if the average grade for your lab section (excluding the students who have at least one zero grade) is below 85%, the average will be curved up to 85%. There is no guaranteed number of A grades, B grades, etc. per section. Your final letter grade will be based on the following standard scale: 93% and up is an A, 90–92.99% is an A–, etc. Grades near a cutoff will not be bumped up except in extenuating circumstances, at the discretion of the Lab Director.

Course Policies

Lab Safety Rules: You are required to follow the lab safety rules at all times or risk being expelled from the lab for the day and taking an unexcused absence. These rules are given in Chapter 1 of the Lab Handbook; additional rules will be explained by your TA.

Lab Drawers: You are accountable for the contents of your lab drawer throughout the semester. Further information is given on the lab drawer check-in sheet you will use during the first lab session.

Pregnancy and Chemical Exposure Notice: Pregnant students should be aware that there are risks associated with the development of the embryo and fetus from exposure to certain chemicals. Likewise, students with certain medical conditions could also experience an adverse effect from exposure to chemicals. The Department of Chemistry recommends that you discuss the Organic Chemistry chemical list, procedures, and required safety precautions with

your physician. The Department of Chemistry will work with you to discuss possible options regarding meeting the requirements of the course. Please contact the instructor of your course to discuss these options and any questions you may have.

Required Texts and Supplies:

- Approved safety goggles and labcoat
- Organic chemistry model set

To make them more available to students who are remote, the lab manual and handbook will be available as PDFs in Canvas, so you won't need to purchase them. Also, since all lab reports will be turned in as PDFs in Canvas, you do not need to record your experimental observations in a carbon-copy lab notebook; any notebook will work.

Organic modeling kits from various different manufacturers are available for lower cost online, but whichever kit you purchase, you should make sure it has at least 10–15 carbon atoms (they are usually the ones made of black plastic).

The website for this course is www.orgchemboulder.com. This website also contains a large amount of supporting information including photos and videos of lab techniques being performed, and is a useful supplement to the Handbook.

Prerequisites and Corequisites: Students enrolled in CHEM 3381 must also be enrolled in CHEM 3471, BCHM 3491 or CHEM 3331, unless they have already passed one of these courses. They must also have passed both Organic Chemistry 1 lab and lecture (either majors or nonmajors), with a grade of C- or better in both courses. Failure to meet this requirement will result in being administratively dropped from the course. Exceptions will be determined by the Lab Director.

Add/Drop: Students who do not attend the first laboratory session may be automatically dropped from the lab or the lecture to make room for people on the wait list. It is your responsibility to know your schedule and to make changes accordingly. Information regarding drop/add deadlines can be found at <http://www.colorado.edu/registrar/students/academic-calendar/registration-calendar>.

Email Policy: Announcements from your TA or Lab Director will occasionally be sent to your official CU email address, via the roster emailing system. It is your responsibility to check your CU email account frequently. You may set up email forwarding from your CU account to another email address if you prefer, but you do so at your own risk. If you suspect your email account is not working properly, you must contact CU's tech support at help@colorado.edu and make sure it is in order. Missed email will not be considered a valid excuse for missing or incorrect assignments. See full details at <http://www.colorado.edu/policies/student-email-policy>.

Classroom Behavior: Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. 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 race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on [classroom behavior](#) and the [Student Code of Conduct](#).

Accommodation for Disabilities: If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the [Disability Services website](#). Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see [Temporary Medical Conditions](#) on the Disability Services website.

Preferred Student Names and Pronouns: CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code: All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code. Violations of the policy may include: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found at the [Honor Code Office website](#).

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation: The University of Colorado Boulder (CU Boulder) is committed to fostering an inclusive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or cureport@colorado.edu. Information about the OIEC, university policies, [anonymous reporting](#), and the campus resources can be found on the [OIEC website](#).

Please know that faculty and instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about options for reporting and support resources.

Religious Holidays: Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, absences for religious reasons will be handled the same way as any other excused absence.

See the [campus policy regarding religious observances](#) for full details.