

Chemistry 231L Course Syllabus

Instructor:	Dr. Terry Fernando
Office:	0757 Gilman
Instructor Office Hours:	M, W 2:30-3:30. Email instructor for webex meeting, if preferred.
Head TA:	Austin Thompson
email for Instructor	terry@iastate.edu
email for Head TA:	austin1@iastate.edu

Chem 231 and 231L are co-requisite courses, i.e., students in Chem 231 are required to take Chem 231L at the same time or to have already received credit in 231L and visa versa. Co-requisite course requirements are strictly enforced: Students who do not meet the co-requisite should drop the course or **they will receive an F in the course**. Students who drop or audit Chem 231 will be required to drop 231L and vice versa. To add or change lab sections during the first week of class, use AccessPlus. After the first week, please use the digital schedule change form also available on AccessPlus.

Learning Objectives

At the end of this course, you will be able to

Understand and follow current lawful and safe chemical handling practices (e.g., personal protective devices) and the hazards associated with the use of common organic reagents.

Carry out and understand many common organic chemistry tasks, including percent yield calculations, thin layer chromatography, recrystallization, distillation, extractions, solvent removal, and temperature control of reactions (reflux, ice-baths, etc.).

Carry out key organic syntheses along with purifying and characterizing obtained product.

Understand the mechanism for each synthesis as well as underlying fundamental patterns.

Please see Frequently Asked Questions on Canvas for questions about COVID related face to face lab absences.

Required Personal Protective Equipment (PPE)

Safety Eyewear: UVEX — Model S040C Safety Glasses or Jones & Co. Visorgogs or Magid Glove and Safety Manufacturing “Sapphire” safety glasses. Safety eyewear may be purchased at the bookstore. Other styles or types of protective eyewear require approval from the department safety officer or course instructor. **Safety eyewear is required in the laboratory at all times.**

Face covering: This may be a cloth face mask or disposable face mask. Cloth masks are available at the bookstore.

Lab coat: A knee length or longer lab coat must be purchased. These are available at the bookstore.

Additional PPE: gloves (provided), and closed-toe, closed-heel shoes are important components for lab safety.

PPE is required in the laboratory at all times.

Course Logistics

Each section of this course is split into two groups: Group A and Group B. The list of group members was sent via email and is posted in Canvas in the *Frequently asked questions* module.

Group A will do an online experiment or task week 1 and group 2 will do a F2F experiment week 1. The following week, the two groups will switch: Group A will do a F2F experiment and Group B will do an online experiment or task. This pattern continues for the rest of the semester. A schedule is available in the syllabus and by clicking on the syllabus link on Canvas

Due to COVID-19, students are assigned hoods. Your assigned hood number is included in the groups list described above. Additional COVID-19 details are provided in the COVID-19 power point available in the *Frequently asked Questions* module. Please watch it to help keep yourself, peers, and teaching assistants safe.

Course Materials

You will use Microsoft Word and provided Lab Report templates for your lab reports.

All required lab readings, powerpoints, and tutorials are posted on Canvas. Submission links for your lab reports are also on Canvas. Modules are arranged by week in order to make everything easy to find. Be sure to use the materials for your assigned group.

Assessments

The safety assignment consists of reading and signing the safety contract and two Environmental, Health, and Safety (EHS) online courses. You need to submit the evidence of EHS course completion and upload a copy or photo of the signed safety contract. Please see details in the Week 1 module on Canvas.

All other experiments require a lab report. Details are given in the "Intro" experiment on Canvas.

Deadline for **all** submissions in Sunday at 11:59 PM.

Please note that late submissions are generally not accepted. Rare exceptions are made serious reasons such as illness. If such is the case, email your instructor at terry@iastate.edu as soon as humanly possible for a deadline extension.

Grading

Grading scale for final grades: A \geq 93%, A- \geq 90%, B+ \geq 87%, B \geq 83%, B- \geq 80%, C+ \geq 77%, C \geq 73%, C- \geq 70%, D+ \geq 67%, D \geq 63%, and D- \geq 60%, and F < 60%. Grades are rounded up at the end of the semester. (e.g. 92.5% => 93%)

Important Course Policies:

- 1. Since online make up labs are available for face to face labs and online labs can be performed anywhere with wifi, there are NO dropped labs.**
- 2. You must attend your assigned lab. You may not makeup a face to face experiment in a different lab.**
- 3. It is the student's responsibility to make sure that submissions are properly submitted by the deadline. In case of technical problems, please email your TA IMMEDIATELY. Do not wait until until the next day or your submission will receive a zero.**
- 4. It is the student's responsibility to check grades on Canvas on a weekly basis.**
- 5. Any complaint regarding a grade MUST be brought up within 1 week of receiving the returned graded work to have any issue addressed. DO NOT WAIT UNTIL THE END OF THE SEMESTER.**
- 6. Use of personal electronic devices of any type (e.g., laptops and cell phones) is strongly discouraged in the lab. If you choose to use your own personal device in the lab, you do so at your own risk since it is a lab environment.**
- 7. Presence at Lab Check-out is mandatory unless you have an excused absence. Lab Check-out must be done on the scheduled day at the scheduled time. Check-out is worth 20 points.**
- 8. Grade concerns brought up after final grades are submitted will not be considered unless there is a demonstratable error involved (this is rare.)**

Getting Help

- Take advantage of your TAs' (or any other of your course TA's) Webex help sessions (available on Canvas.)
- Visit your instructor during office hours (either face to face or virtually).
- Email your TA, head TA, or instructor with questions. Be aware that they are not available 24/7 so do not email questions right before the lab report deadline and expect to get an answer in time.

Academic Misconduct

Academic Misconduct in any form is in violation of ISU *Student Disciplinary Regulations* and will not be tolerated. This includes, but is not limited to: **COPYING AND PASTING FROM ANYTHING WHICH YOU DID NOT AUTHOR, SUBMITTING LAB-NOTES AND/OR ANALYSIS AND APPLICATION QUESTIONS FOR EXPERIMENTS YOU DID NOT PERFORM, OR SUBMITTING WORK IDENTICAL OR NEARLY IDENTICAL TO ANOTHER STUDENT'S.** Depending on the act, a student WILL receive an F grade on all submissions associated with the experiment, could receive an F grade for the course, and could be suspended or expelled from the University. See the Conduct Code at <http://www.dso.iastate.edu/ja> for more details and a full explanation of the ISU Academic Misconduct policies. In any case, the student will be reported to the Dean of the Students Office.

Accessibility and Mental Health Support

Iowa State University is committed to assuring that all educational activities are free from discrimination and harassment based on disability status. Students requesting accommodations for a documented disability are required to work directly with staff in Student Accessibility Services (SAS) to establish eligibility and learn about related processes before accommodations will be identified. After eligibility is established, SAS staff will create and issue a Notification Letter for each course listing approved reasonable accommodations. This document will be made available to the student and instructor either electronically or in hard-copy every semester. Students and instructors are encouraged to review contents of the Notification Letters as early in the semester as possible to identify a specific, timely plan to deliver/receive the indicated accommodations. Reasonable accommodations are not retroactive in nature and are not intended to be an unfair advantage. Additional information or assistance is available online at www.sas.dso.iastate.edu, by contacting SAS staff by email at accessibility@iastate.edu, or by calling 515-294-7220. Student Accessibility Services is a unit in the Dean of Students Office located at 1076 Student Services Building.

Student Counseling Services (SCS) provides confidential prevention, intervention, information, and referral services to Iowa State students. Assistance is available for students coping with relationship problems, low self-esteem, stress, loneliness, depression, cultural differences, sexual assault recovery, childhood abuse, trauma, eating disorders, substance abuse, career/major concerns, academic motivations, and other concerns. Students can initiate services at SCS during the walk-in hours (see SCS website) or during business hours if crisis counseling is needed. Check out their website for additional information: <https://counseling.iastate.edu/>.

Freedom of Speech

Iowa State University supports and upholds the First Amendment protection of [freedom of speech](#) and the principle of [academic freedom](#) in order to foster a learning environment where open inquiry and the vigorous debate of a diversity of ideas are encouraged. Students will not be penalized for the content or viewpoints of their speech as long as student expression in a class context is germane to the subject matter of the class and conveyed in an appropriate manner.

CHEM 231L

Lab Room: 1208 Hach

S21 231L					
Week of	Week	GROUP	Online Exp	GROUP	F2F Exp
1/25/21	1	A	<i>Safety (EHS Course)</i>	B	Intro
2/1/21	2	B	<i>Safety (EHS Course)</i>	A	Intro
2/8/21	3	A	<i>Functional Groups, Resonance, and Isomers</i>	B	Extraction
2/15/21	4	B	<i>Functional Groups, Resonance, and Isomers</i>	A	Extraction
2/22/21	5	A	<i>NMR</i>	B	TLC, MP and IR
3/1/21	6	B	<i>NMR</i>	A	TLC, MP and IR
3/8/21	7	A	<i>Intro to Nuc Sub</i>	B	3-methyl-2-butanol with HCl
3/15/21	8	B	<i>Intro to Nuc Sub</i>	A	3-methyl-2-butanol with HCl
3/22/21	9	A	<i>Cyclohexanol and Acid</i>	B	EAS Bromination
3/29/21	10	B	<i>Cyclohexanol and Acid</i>	A	EAS Bromination
4/5/21	11	A	<i>Alkene Addition</i>	B	Sodium Borohydride Reduction
4/12/21	12	B	<i>Alkene Addition</i>	A	Sodium Borohydride Reduction
4/19/21	13	A	<i>Fischer</i>	B	CHECK OUT
4/26/21	14	B	<i>Fischer</i>	A	CHECK OUT