

Chemistry 201L Course Syllabus

Fall 2019

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Office Hours: Monday 12-2 pm; or by appointment

WWW Address: <http://courses.chem.iastate.edu/>

*Chem 201 and 201L are co-requisite courses, i.e., students in Chem 201 are required to take Chem 201L at the same time or to have already received credit in 201L. 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 201 will be required to drop 201L and vice versa.** Students may not register to audit Chem 201 after 5:00 PM on September 25th, 2018. The audit does not count towards full-time student status. **To add or drop recitation or lab sections during the first week of class, use AccessPlus. After the first week, please go to the Undergraduate Chemistry Office in 1608 Gilman (M-F 8–12 noon and 1–4 pm). The last day to drop CHEM 201L is November 1st.***

Required Items:

Laboratory Text: Provided on the course Canvas site.

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 will NOT be permitted without approval from the department safety officer or teaching lab coordinator. ***Safety eyewear is required in the laboratory at all times when hazardous materials are present.***

Personal Protective Equipment (PPE): Safety eyewear, gloves, lab coat (provided) and fully covered shoes are important components for lab safety. **Sandals are not allowed.** You will not be allowed to do the experiment if you are not in proper attire. **Goggles/lab coat/gloves are to be worn at all times in the lab until all the chemicals have been put away. Please wear gloves when typing at the computer provided in lab.** A student caught without PPE in the lab will receive a 5-point penalty per instance on the final lab grade. Repeated offenses can result in dismissal from the course. All instructors and laboratory personnel are entitled to take points off. In addition, *you are NOT allowed to wear PPE out in the hallway* so as to avoid contamination. **Failing to follow these safety rules will result in the loss of 5 points for each offense starting from the second warning.**

Important Course Policies:

1. It is the student's responsibility to make sure that homework is properly uploaded/submitted by the deadline. In case of technical problems, please email IMMEDIATELY your TA. Do not wait until the deadline has passed otherwise your work will not be graded.
2. It is the student's responsibility to check grades on Canvas on a weekly basis.
3. Any complaint on a grade **MUST** be brought up within 1 week of receiving the returned graded work to have the grade corrected. No exceptions.
4. Electronic devices of any type (e.g., laptops and cell phones) cannot be used in the lab. Students will be asked to leave their devices in their backpack. Students may be asked to take pictures with their cell phones of experiments set-ups or reaction products by their TA.
5. Each week, students will work with different lab partners. Lab partners will rotate on a weekly basis. The TA will assign partners at each lab period.
6. Presence at Lab Check-out is mandatory. Absence will result in 5 points being deducted from the last graded ELN.
7. If no teaching assistant shows up for your recitation/laboratory section, send one student to 1608 Gilman to find a substitute teaching assistant. The department will find a substitute as soon as possible.

Pre-lab quizzes: You are expected to come to the laboratory prepared to do the work. **Prior** to each class you must have read the appropriate chapter in the electronic lab manual (found on Canvas). You are expected to complete the **pre-lab** quiz for the experiment before your class starts. Pre-lab quizzes may include questions about safety readings (the reading material is found on Canvas). **Late pre-lab quizzes will have 0 points and may not be completed after the due date.** Pre-labs are timed quizzes. You will be given up to two attempts (each 30 minutes) and the highest score will be taken.

Laboratory Notebook: Your laboratory teaching assistant (TA) will discuss the laboratory notebook at the check-in session during the first week of class. Laboratory experiments will be recorded using an electronic lab notebook (ELN) by LabArchives. In the laboratory, each student will have access to a computer. You must generate a pdf file of the ELN and upload it on Canvas **by 11:59 p.m. of three days after the experiment** (e.g., for Monday labs, upload by 11:59 p.m. of Thursday). **Late lab reports will have 0 points (no partial credit).**

Safety assignments: You have eight Safety readings for the first labs. Each has a corresponding quiz. For deadlines of each safety quiz, please refer to Canvas. No excuses are accepted for missing a due date.

Missed Experiments: There are no scheduled make-up labs. Students are expected to attend all laboratory sessions and complete the experiments as scheduled. If you know in advance that you will be unable to attend a scheduled lab experiment for your section, it is your best interests to notify your laboratory instructor as soon as possible. Under no circumstances are you to do an experiment or submit a report in a laboratory section other than the one for which you are registered without the prior consent of the laboratory instructor. If a student is unable to complete the laboratory experiment during the scheduled period because of a valid reason (e.g., illness, university-sponsored travel), the student must contact the professor in charge of the lab course and their TA by email **within two days** of the missed laboratory time. A valid explanation and documentation must be provided in order to obtain an excused absence. A maximum of two excused absences will be allowed per student. Students not excused from the experiment receive a grade of zero for that experiment.

Grading: The laboratory grade will be based on the prelab quizzes (56 pts), ELNs (300 pts), safety assignments (32 pts), research proposals (12 pts), and the final poster presentation (50 pts). **Total pts = 450 pts.**

Grading scale for final grades: A > 93.00%, A- > 90.00%, B+ > 87.00%, B > 83.00%, B- > 80.00%, C+ > 77.00%, C > 73.00%, C- > 70.00%, D+ > 67.00%, D > 63.00%, and D- > 60.00%, and F < 60.00%.

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 or sharing answers on tests or assignments, plagiarism (including from lab manual), submitting a lab report for an experiment not performed, and having someone else do your academic work. Depending on the act, a student could receive an F grade on the test/assignment, 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.

Students with Disabilities: Iowa State University is committed to assuring that all educational activities are free from discrimination and harassment based on disability status. All students requesting accommodations are required to meet with staff in Student Disability Resources (SDR) to establish eligibility. A Student Academic Accommodation Notification (SAAN) form will be provided to eligible students. The provision of reasonable accommodations in this course will be arranged after timely delivery of the SAAN form to the instructor. Students are encouraged to deliver completed SAAN forms as early in the semester as possible. SDR, a unit in the Dean of Students Office, is located in room 1076, Student Services Building or online at www.dso.iastate.edu/dr/. Contact SDR by e-mail at disabilityresources@iastate.edu or by phone at 515-294-7220 for additional information.

Laboratory Experiment Schedule

Fall 2019

Week	Week of	Experiment
1	Aug 26	Lab Check-In, Introduction to ELN, Chapter 3 : Measurement and Error Analysis
2	Sep 2	Chapter 4 : Recrystallization, Melting Points, and Thin Layer Chromatography <i>Safety Assignment 1</i>
3	Sep 9	Chapter 4 (Continued) *Monday lab sections will not meet due to University Holiday: lab work must be completed as much as possible during week 2. <i>Safety Assignment 2</i>
4	Sep 16	Chapter 5 : Equilibrium, <i>Safety Assignment 3</i>
5	Sep 23	Chapter 6 : Phase Diagrams, <i>Safety Assignment 4</i>
6	Sep 30	Chapter 7 : Organometallics (synthesis and practice chromatography) <i>Safety Assignment 5</i>
7	Oct 7	Chapter 7 (Continued): separation of ferrocene products <i>Safety Assignment 6</i>
8	Oct 14	Electrochemical Reduction of CO₂ (project manual) Electrochemistry concepts and Bulk electrolysis of a metal <i>Safety Assignment 7</i>
9	Oct 21	GC calibration for product analysis Overview of Project Rationale, <i>Safety Assignment 8</i>
10	Oct 28	Research Project 1 : Electrochemical Reduction of CO ₂ at a Copper Electrode
11	Nov 4	Research Project 2 : Preparation and Assessment of a New Electrode Material for Reduction of CO ₂ <i>Proposal for Research Project 3 due by noon, 3 business days after lab session.</i>
12	Nov 11	Research Project 3 : Optimization of New Electrode for Reduction of CO ₂ <i>Proposal for Research Project 4 due by noon, 3 business days after lab session.</i>
13	Nov 18	Research Project 4 : Optimization of Reduction of CO ₂
14	Nov 25	<i>Thanksgiving Break</i>
15	Dec 2	Lab check-out - Attendance is required <i>Preparation of Posters for Lab Final</i>
16	Dec 9	Lab Final. It will involve a poster session with oral presentations on students' CO ₂ reduction projects. Mount posters on hallway bulletin boards outside of 1225 Hach.