

General Chemistry Lab I

Chemistry 1215, Section 001–201

Instructor Contact Information

Instructor: Prof. Kaci Kuntz

Office: HEB/Gaus Haus 1475

E-mail: kaci.kuntz@utah.edu

Consultation Hours*: Monday, 11:00 am – 12:00 pm

Room: HEB/GH 1475

In-person Drop-in Office Hours*: Monday, 12:00 – 2:00 pm

Room: HEB 1316

Thursdays, 9:30 – 10:30 am

*Email me to set up additional hours and/or virtual hours.

Course Goals

This lab is an introduction to General Chemistry and techniques for lab measurements and analyses. Success requires both quantitative and conceptual thinking; you will seek to explain both *what* happens in a process/reaction and *why* it happens.

By the end of this lab you will be able to:

- Perform and record lab measurements, with specific emphasis on the following techniques.
 - Absorption spectroscopy
 - Emission spectroscopy
 - Calorimetry
 - Chromatography
 - Titrations
 - Chemical Reactions.
- Connect scientific understanding you build in this course to real world phenomena and explain these phenomena.
- Recognize the value of science in your personal context and to the world.
- Communicate evidence-based arguments and explanations for scientific measurements and claims you make.
- Confidently take on “next level” challenges in chemistry and related disciplines.

Email – Please use umail.

Include “CHEM 1215” in the subject line of all emails, along with a very brief description of the purpose of the email (and time frame if it’s urgent). Email any questions to the instructor and your TA. Generally, expect a 48-hour response time (except on weekends/holidays).

Note: Following FERPA guidelines, I cannot discuss grades or grading matters by email.

Course Prerequisites

CHEM 1210 is a pre-requisite or co-requisite for CHEM 1215.

Course Structure

This class will include pre-recorded videos, pre-lab questions, in-person labs, lab reports, and in-person/virtual help hours. Except in cases of ADA accommodations or excused absences per University policy, you will be expected to attend lab in person. There are NOT virtual lab options available.

Before Lab:

- *Reading:* Read through the lab introduction and procedure for the week.
- *Pre-recorded Videos:* Watch the videos posted on each module on Canvas that introduce content, instrumental methods and techniques, and demonstrate the execution and/or analysis of a lab.
- *Pre-lab Notebook:* Write the relevant background and equations, procedure, safety precautions, waste disposal, etc. in your lab composition notebook.
- *Pre-lab Questions:* Complete the pre-lab questions on Canvas and submit on Canvas. The pre-lab questions will be due at 11:59 pm on Tuesday (regardless of your section) prior to that week’s lab. (Labs for CHEM 1215 begin on Wednesday morning.)

During Lab:

- *Lab:* There is one 3-hour lab each week. You will be assigned a specific day for your section number and must attend that section.
- *Check-in Points:* You must show your TA your lab composition notebook, demonstrating that you have prepared to do the lab. **YOU WILL NOT BE ALLOWED INTO LAB WITHOUT COMPLETING THIS PRIOR** with the exception of the week of Lab Check-in.
- *Check-out Points:* Be sure to check-out with your TA when you complete your lab work and before you leave for the day.

After Lab:

- *Reports:* Complete the lab report and submit it on Canvas to your TA at the start of your next lab.

Additional Support

- *Consultation Hours:* These instructor hours are available for any questions that you may have individually (e.g. grading concerns, study habits, how to navigate Canvas, etc) that are not content-related.
- *Drop-in Office Hours:* The instructor and TAs will have a in-person and virtual meetings that you can drop-in. Feel free to ask any content questions, ask about approaches to work a problem or complete a lab analysis, or gain insights from others' questions.

Course Material

Website

The website for this class is located on [Canvas](#). You should check this site daily for class announcements and other course information and material.

Textbook

We will provide a free pdf of the lab manual. You are responsible for writing the necessary background/equations, procedures, safety, waste disposal, etc. in your lab composition notebook.

Lab

1. Safety glasses or goggles meeting the ANSI Z87.1 specification
 - Safety glasses or goggles can be purchased from the campus store or the American Chemical Society (ACS) Student Affiliates who will be present in the chemistry lobby the first Friday of the semester. The exact time and location will be posted on Canvas.
2. Combination lock (one per lab group)
The lock must be a combination; not a key or finger-print lock.
3. Lab Coat that is 100% cotton.
 - When you enroll in lab, you are automatically opted-in to a FREE lab coat program. We have lab coats available for any student to use; however these are shared among students and chemistry sections. If a student would prefer a personal lab coat, one can be purchased (and stored in a locked lab drawer) from campus store or other vendors. Please note that the lab coat MUST be 100% cotton.
4. A composition notebook with a sewn binding (i.e. not spiral bound) and non-perforated paper (i.e. not made to have pages torn out).

Course Evaluation

At the end of the semester, each student's course score will be calculated according to the following:

Assignments	5%
Pre-lab Questions	20%
Check-in Points	5%
Check-out Points	5%
Labs Reports	55%
Lab Final	10%
Total	100%

For General Chemistry Lab I, grades will be assigned according to the following scale:

Percentage score	Course grade	Percentage score	Course grade
93.00—100	A	77.00—79.99	C+
90.00—92.99	A-	71.00—76.99	C
87.00—89.99	B+	68.00—70.99	C-
83.00—86.99	B	60.00—67.99	D
80.00—82.99	B-	< 60.00	F

1. Assignments:

- Syllabus Quiz:** This quiz is given online through Canvas and is separate from the pre-lab questions. You will need to read the syllabus and complete the syllabus quiz by 11:59 pm, Sunday, August 27th. (Hey—you're already reading it. Excellent work!) The quiz is intended to confirm that you have read through this syllabus, know where to find resources, and understand the course outline/guidelines. This quiz cannot be dropped. You will have 2 attempts and only the highest score will be recorded. (5 points)
- Lab Safety & Procedures Form:** You will need to read the lab safety and procedures and electronically sign it on Canvas by 11:59 pm, Sunday, August 27th. (1 point)
- Lab Safety & Procedures Quiz:** To be completed by 11:59 pm, Sunday, August 27th. This quiz is given online through Canvas and is separate from the pre-lab questions. It will test your knowledge of the information presented in the Lab Safety & Protocols document and video (both posted on Canvas). This quiz cannot be dropped. You will have 2 attempts and only the highest score will be recorded. (5 points)
- Mask-Changing Lab Safety Protocols Form:** You will need to read the mask-changing protocol and electronically sign it on Canvas by 11:59 pm, Sunday, August 27th. (1 point)
- Lab Coat Program:** You will need to read the procedure for participating in the lab coat program and electronically sign it on Canvas by 11:59 pm, Sunday, August 27th. (1 point)

2. **Pre-lab Questions** You will have 2 attempts to complete the pre-lab questions. There will be no makeups for pre-labs. There are 10 pre-labs at 5 points each, but two will be dropped to accommodate any unforeseen circumstances that arise during the semester (e.g. if you miss one lab for an emergency or illness, it will not affect your grade). This means you will only be evaluated on the highest 8 pre-lab scores.
3. **Check-in Points** Being prepared for lab is essential. It is YOUR responsibility to come to lab prepared. You will be required to read through the lab manual (background and equations, safety, waste, procedure, appendices, etc.), watch the prerecorded videos on Canvas, and then transfer any information that you need to complete the lab to a composition lab notebook (sewn, not spiral bound, non-perforated pages). Furthermore, you will need to leave space(s) in your lab notebook to write your observation(s) and record pertinent data during lab. Your TA will examine your lab notebook before you can start the lab for the day. Once they have ensured that you have prepared for lab, you will receive check-in points for that day. **If you do NOT complete a pre-lab notebook check-in, you CANNOT do the lab.** Moreover, if you are not properly prepared for lab, you may not earn full check-in points. There are 12 attendances at 2 points each, but two will be dropped to accommodate any unforeseen circumstances that arise during the semester (e.g. if you miss one lab for an emergency or illness, it will not affect your grade). This means you will only be evaluated on the highest 10 check-in points.
4. **Check-out Points** Maintaining a clean lab area is essential to safety and performing safe chemistry experiments. You must clean up and check out of your lab at the end of every lab period with your TA. Your TA will examine your lab area to ensure it is completely clean and everything is put away before you leave. Once they have ensured that your area is clean and marked you on their checkout sheet, you will receive 2 points for that day. Failure to check out with your TA properly will result in forfeiture of those points. It is YOUR responsibility to ensure that you clean up and checkout and that the TA marks you down for doing so. There are 12 attendances at 2 points each, but two will be dropped to accommodate any unforeseen circumstances that arise during the semester (e.g. if you miss one lab for an emergency or illness, it will not affect your grade). This means you will only be evaluated on the highest 10 check-out points.
5. **Labs Reports:** Lab reports are found on Canvas. These must be filled out and submitted on Canvas at the start of lab the week after it was performed. Any plots that are needed to complete the lab report should be turned in with the report. Plots that accompany the lab reports must be created by you in excel or a similar program and properly labeled. Both effort and correctness will be considered in the grading of lab reports. Show all work and clearly label everything! Always include units.

You cannot turn in a lab report for a lab that you did not attend (Academic Misconduct according to the UoU Student Code). If you cannot attend the next week's experiment, you must submit lab report BEFORE the normal deadline. Late lab reports are not accepted, except under extreme circumstances (illness, etc.). In those cases, the professor (not your TA) MAY allow a lab report to be turned in late with appropriate documentation.

Note that the lab report you submit on Canvas must be yours and only yours. This means that while you may work with a lab partner during lab and brainstorm how to complete the lab report, the report you submit must only be yours. For example, if you are creating a graph in Excel, your partner cannot turn in your graph as their own work (and vice versa). This is plagiarism and Academic Misconduct according to the UoU Student Code. Although your data will be the same, each partner is learning data processing (and plagiarising graphs reduces one's educational experience and learning opportunities).

There are 10 lab reports at 15 points each, but the lowest two will be dropped to accommodate any unforeseen circumstances that arise during the semester (e.g. if you miss one lab for an emergency or illness, it will not affect your grade OR if a lab report didn't go as well as you expected). This means you will only be evaluated on the highest 8 report scores.

6. **Lab Final:** The Lab Final will be on your last scheduled day of lab (see the Lab Schedule on Canvas) and will test your knowledge and correct implementation of techniques that you have learned throughout the semester. You are responsible for any information or techniques you miss when you are not at a lab and may be tested on those techniques and information during the lab final. The lab final is performed individually. This cannot be dropped.

Grades will be entered on Canvas throughout the semester. You should double-check the entered grades for accuracy on a regular basis. If you believe there to be an error in entering a grade correctly, you should contact your TA immediately with your concern. For this reason, (and others), it is a good idea to save your graded lab reports.

Any concerns about grades (such as a petition for more points on an answer) should be brought to the professor instead of your TA. If you are concerned that a report was not scored fairly, please submit a regrade request (available on Canvas under FAQs page) before the lab final to the professor. All regrade requests will be completed at the END of the semester.

Late Policies

Lab

During the first 15 minutes of laboratory, your TA will provide detailed information regarding safety procedures, safe handling of chemicals, and proper disposal procedures for the experiment. If you arrive after this introduction, **YOU WILL NOT BE ALLOWED TO ENTER THE LAB AND WILL RECEIVE A ZERO FOR BOTH THE CHECK-IN POINTS, CHECK-OUT POINTS, AND THE LAB REPORT.** It is your responsibility to be on time to lab. Furthermore, it is your responsibility to be prepared for lab. If you arrive without your lab composition notebook prepared for that week's experiment, **YOU WILL NOT BE ALLOWED TO ENTER THE LAB AND WILL RECEIVE A ZERO FOR BOTH THE CHECK-IN POINTS, CHECK-OUT POINTS, AND THE LAB REPORT.** If you are consistently late every week and/or unprepared, you may be asked to leave laboratory which can result in a failing grade.

Work

No late work will be accepted. If you realize that you will not be attending lab in person, submit your report BEFORE lab the start of your lab time. Note that the two-dropped pre-lab questions, check-in points, check-out points, and lab reports are intended to accommodate for *any* unforeseen circumstances.

Course Schedule

This schedule is tentative and subject to change; any revisions will be announced on Canvas.

Week	Dates	Lab Description
1	Aug 21 - 25	Canvas Assignments only (no lab in-person)
2	Aug 28 - Sept 1	Lab Check-in
3	Sept 4 - 8	Exp 1: To Measure or Not? Err on the side of measuring.
4	Sept 11 - 15	Exp 2: Chemistry is Periodically Trendy
5	Sept 18 - 22	Exp 3: Shedding Light on the Atomic Structure
6	Sept 25 - 29	Exp 4: Absorbance
7	Oct 2 - 6	Exp 5: Drop the Base!
8	Oct 9 - 13	No Lab (Fall Break)
9	Oct 16 - 20	Exp 6: Gas: It's a blast!
10	Oct 23 - 27	Exp 7: Is it hot in here? Or is it cold?
11	Oct 30 - Nov 3	Exp 8: Calorimetry & Hess's Law
12	Nov 6 - 10	Exp 9: Holding it together!
13	Nov 13 - 17	Exp 10: Self-Designed Lab
14	Nov 20 - 24	No Lab (Thanksgiving Break)
15	Nov 27 - Dec 1	Lab Practicum Final
16	Dec 4 - 8	No Lab
17	Dec 11 - 15	No Lab (Lecture Finals)

Note: This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced on Canvas under Announcements and updated on the Canvas homepage.

University Policies

Academic Dishonesty

By submitting an assignment, you are representing that it is your own work and that you have followed the rules associated with the assignment. Incidents of academic misconduct (including cheating, plagiarizing, research misconduct, misrepresenting one's work, and/or inappropriately collaborating on an assignment) will be dealt with severely, in accordance with the Student Code (deanofstudents.utah.edu/accountability/studentcode). A single instance of academic misconduct may result in a failing grade for the course. Multiple instances of academic misconduct may result in probation, suspension or dismissal from a program, suspension or dismissal from the University, or revocation of a degree or certificate.

The American with Disabilities Act

The Americans with Disabilities Act. The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

Campus Safety

The University of Utah values the safety of all campus community members. To report suspicious activity, call campus police at (801) 585-COPS ((801) 585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

COVID-19 Recommendations

The University of Utah has implemented reasonable health and safety protocols, taking into account recommendations by local, state and national public health authorities, in response to the COVID-19 pandemic. For the most up-to-date information on COVID-19 protocol, please refer to coronavirus.utah.edu/.

Masking & Lab Procedures

The University of Utah is a mask-friendly campus. However, in lab, exposure to chemicals can contaminate masks. Therefore, we have a mask-changing protocol in place.

- We have free disposable masks available for use in lab.

When you arrive at your assigned laboratory session, you will be required to replace your personal face covering with a disposable face mask (which will be provided) that will be provided by your TA following the procedure outlined in the Mask-Changing Laboratory Safety Procedures (posted on Canvas). Your TA will also instruct you on the proper procedure for

replacing your face covering. You will also be required to wear appropriate personal protective equipment (PPE) while in the laboratory; this includes a laboratory coat, goggles, and disposable gloves. Disposable gloves will be provided.

Diversity Statement

Diversity is crucial to our pursuit of academic excellence, and we are deeply committed to creating a diverse and inclusive community. I believe that all persons should be enabled to learn chemistry in an inclusive environment. Please do not hesitate to reach out to me if you are treated in a manner that is inconsistent with this.

English Language Learners

If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include the Writing Center (writingcenter.utah.edu), the Writing Program (writing.utah.edu), and the English Language Institute (continue.utah.edu/eli). Please let us know of any additional support you would like to discuss for this class.

Office of the Dean of Students

The Office of the Dean of Students (deanofstudents.utah.edu) is dedicated to being a resource to students through support, advocacy, involvement, and accountability. It serves as a support for students facing challenges to their success as students, and assists with the interpretation of University policy and regulations. Please consider reaching out to the Office of Dean of Students for any questions, issues and concerns. 200 South Central Campus Dr., Suite 270. Monday-Friday 8 am-5 pm.

Pronouns

Class rosters are provided to the instructor with the student's legal name as well as "preferred first name" (if previously entered by you in the Student Profile section of your CIS account, which can be managed at any time). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class or on assignments. Please advise me of any name or pronoun changes so I can help create a learning environment in which you, your name, and your pronoun are respected. Additionally, you can list your pronoun on Canvas. If you need any assistance or support, please reach out to the LGBT Resource Center lgbt.utah.edu.

Safety

The University of Utah values the safety of all campus community members. To report suspicious activity, call campus police at (801) 585-COPS (801) 585-2677. You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, (801) 581-8365, or the Office of the Dean of Students, 270 Union Building, (801) 581-7066. For support and confidential consultation, contact the Center for Student Wellness, SSB 328, (801) 581-7776. To report to the police, contact the Department of Public Safety, (801) 585-2677(COPS).

Sexual Misconduct, Discrimination, and Related Retaliation

The University of Utah is committed to fostering a positive and welcoming learning, working, and living environment. Sexual Misconduct, Discrimination and Retaliation are prohibited by University Policy. Faculty and staff have a responsibility to inform the Office of Equal Opportunity and Affirmative Action (OEO/AA) when made aware of incidents of sexual misconduct, discrimination, and related retaliation, to ensure that individuals impacted receive information about options for reporting and supportive resources. Incidents may come to the attention of faculty and staff in any way, including through face-to-face conversations, admissions or scholarship applications or essays, a written class assignment or paper, class discussion, email, text, or social media post. This obligation applies regardless of where or when an incident occurred, including if it occurred off campus and/or before they were a member of the campus community. Additional information can be found on the OEO website or you may contact oeo@utah.edu or (801) 581-8365. If you wish to seek support confidentially, please contact the Victim-Survivor Advocates (801) 581-7776 or advocate@sa.utah.edu.

Student Success Advocates

The mission of Student Success Advocates is to support students in making the most of their University of Utah experience (ssa.utah.edu). They can assist with mentoring, resources, and more. Any student who faces challenges securing their food or housing and believes this may affect their performance in the course is urged to contact a Student Success Advocate for support.

Undocumented Student Support

Immigration is a complex phenomenon with broad impact, including those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA),

as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit dream.utah.edu.

University Counseling Center

The University Counseling Center (UCC, counselingcenter.utah.edu) provides developmental, preventive, and therapeutic services and programs that promote the intellectual, emotional, cultural, and social development of University of Utah students. They advocate a philosophy of acceptance, compassion, and support for those they serve, as well as for each other. They aspire to respect cultural, individual and role differences as they continually work toward creating a safe and affirming climate for individuals of all ages, cultures, ethnicities, genders, gender identities, languages, mental and physical abilities, national origins, races, religions, sexual orientations, sizes and socioeconomic statuses.

Veteran's Center

If you are a student veteran, the UoU has a Veterans Support Center. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: veteranscenter.utah.edu. Please also let me know if you need any additional support in this class for any reason.

Wellness

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at wellness.utah.edu or (801) 581-7776.