

# Chemical Principles Laboratory I

## CHEM 1215 Summer 2021 Course Syllabus

1 credit

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**Office Hours:** By appointment, in person with face mask or by Zoom.

| Dates (Week Of)       |         | Experiment/Activity                 |                                  |
|-----------------------|---------|-------------------------------------|----------------------------------|
| May 10 <sup>th</sup>  | Intro   | Course Policies & Safety Review     |                                  |
| May 17 <sup>th</sup>  | Exp1&2  | Basic Lab Skills and Excel (IL)     | Empirical Formulas (LF)          |
| May 24 <sup>th</sup>  | Exp3&4  | Separation of Components (IL)       | Gravimetric Analysis (LF)        |
| May 31 <sup>st</sup>  | Exp5&6  | Chemical Reactions of Copper (IL)   | Paper Chromatography (LF)        |
| June 7 <sup>th</sup>  | Exp7&8  | Calorimetry (IL)                    | Modeling Molecular Geometry (LF) |
| June 14 <sup>th</sup> | Exp9&10 | The Ideal Gas Law (IL)              | Atomic Spectra (LF)              |
| June 21 <sup>st</sup> |         | TA/Course Evaluations – Score Check |                                  |

**IL = In Lab**

**LF = LabFlow (On-line)**

### Required Materials:

- Lab Text:** Enrollment in LabFlow at [www.labflow.com](http://www.labflow.com)
- Lab Notebook:** "Whitelines gridded notebook" from the USU bookstore (or similar)
- Splash Goggles:** Must be splash proof, impact resistant, provide good vision and fit properly.
- Lab Coats:** Must cover arms to wrists and legs to knees. Available at Campus Bookstore, Chemistry Stores and other locations. **Lab aprons are unacceptable.**
- Proper Attire:** Full-length pants with no holes, socks, and closed-toed shoes are required in the laboratory. **Nylon/Lycra or Spandex tights are unacceptable.**
- Lab Fees:** The lab fee of \$75 is used to purchase equipment and supplies for the laboratory as well as a small portion for teaching assistant compensation.

**Recommend Materials:**

**Scientific Calculator:** A calculator is useful for performing calculations in the lab. Other electronic devices, including cell phones, tablets, and laptops, are not permitted in lab.

**Grading**

A score of 90% is guaranteed an A- and 93% or better is guaranteed an A. For complete breakdown see grading scheme sheet. It is up to the student to check scores are correct and complete on a regular basis.

## Check-in

Safety quiz ..... 25 points  
Safety Agreement, signed and uploaded ..... 25 points

10 Lab reports @ 100 pts each (Worst lab dropped) .....900 points

## In Lab Experiments (5)

Pre-lab quiz..... 10 points  
Pre-lab write-up ..... 10 points  
Lab notebook submission..... 60 points  
Post-lab quiz ..... 15 points  
Lab clean-up (Collective section) ..... 5 points  
Total for each lab ..... 100 points

## LabFlow (on-line) Experiments (5)

Pre-lab quiz..... 20 points  
Lab report submission ..... 60 points  
Post-lab quiz ..... 20 points  
Total for each lab ..... 100 points

## Check-out

Course & TA Evaluation ..... 50 points

**Total Points Possible .....1000 points**

- Cohorts completing an on-line experiment are expected to view the experiment video, found on Canvas, prior to beginning the on-line report found on Labflow.
- Pre-lab assignments (pre-lab write-up, pre-lab quiz) are due 30 minutes prior to the lab meeting time.
- All students are expected to upload \*.pdf or \*.jpg files for the lab notebook submissions.
- Pre-lab assignments (pre-lab write-up, pre-lab quiz) will not be accepted late.
- Late post-lab assignments will be assessed a 10% penalty/day. Any assignment over one week late will not be accepted unless a prior agreement has been made.
- It is up to the student to make certain assignment scores are correct and up to date.

**Course Structure**

- As a consequence of the Covid-19 pandemic CHEM 1215 will be delivered using a hybrid face-to-face format. Each section of 24 (or fewer) students will be divided into two equal-size cohorts (A & B) to allow for recommended physical distancing.
- TAs will assign students to cohorts.
- **Cohort A will complete in-person labs on Tuesday and Cohort B will complete in-person labs on Thursday.**

## Canvas

Canvas is required and must be checked on a regular basis. Students are responsible for all information posted on the Canvas 1215 Course including all announcements, course information and assignments.

## Laboratory Check-in

**Laboratory Check-in is mandatory** and is held during the week of May 10<sup>th</sup> during your regularly scheduled lab meeting. Students will be introduced to their Teaching Assistant (TA) and the laboratory space including a discussion on safety information directly relevant to the laboratory space. Cohort A will complete Check-in on Tuesday and Cohort B will complete Check-in on Thursday the first week. **Any student failing to attend the Laboratory Check-in will not be permitted to perform any in-laboratory experiments and will not receive credit for any experiments whether performed in the laboratory or online.**

## COVID-19 Classroom Protocols

In order to continue to provide a high-standard of instruction at USU, and to limit the spread of COVID-19 during the pandemic, students are asked to follow certain classroom protocols during the Summer 2021 semester. These protocols are in place not only for your safety but also the safety of the rest of the campus community.

- Face coverings are required in all classrooms and teaching laboratories. Students will not be permitted to remain in class without a face covering, as per University Policy 20T.3. Students that do not adhere to the face covering policy will be referred to the Office of Vice President for Student Affairs for a possible violation of the Student Code of Conduct. There may be individual medical circumstances that prevent some students from using face coverings. If you require this exemption, contact the Disability Resource Center prior to the start of classes to investigate alternative instruction. These circumstances will be rare, but if they do exist, we ask that everyone be respectful.
- Follow faculty instructions regarding social distancing and entering/exiting classrooms.
- Stay home when you are sick, however mild your symptoms.
- Wash your hands frequently with soap and water.
- You will be asked to work in designated areas and maintain a minimum 2-meter distance from other students and the TA.
- You will be asked to sanitize your desk area and lab equipment at the start and end of each class.
- Masking, social distancing, staying home when sick, and practicing good hygiene are still required on all USU campuses, regardless if a person has tested positive for COVID-19 in the past or received the COVID-19 vaccine.

## Policies and Procedures

1. The administration of Chemistry 1215 will adhere strictly to the policies (including the issuing of incompletes) outlined in the USU 2020 – 2021 General Catalog.
2. Qualified students with disabilities may be eligible for reasonable accommodations. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll-free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.
3. Attendance at **all** the assigned meetings is required. Excused absences include: (1) school excused absences outlined in the general catalog, (2) illness, and (3) a family emergency. Planned family trips, vacations, outings, and weddings are not excused absences. Students should notify the TA in advance, if possible, prior to missing an experiment. Documentation of a USU verified excused absence must be provided. Students missing an experiment will have one week to notify the TA that they have a valid excuse. A missed experiment without a valid excuse will be scored as **zero**. One lab score, usually the worst, will be dropped.
4. Individuals not wearing safety goggles, lab coats, acceptable full-length pants with no holes, socks, and “complete” shoes (no sandals or pumps) will not be allowed in the laboratory, no exceptions.
5. Personal mobile electronic devices, such as phones, tablets and laptops, are not to be used in the laboratory and must be stored away.

6. All students must **read and sign** the Utah State University Chemistry and Biochemistry Departmental *Laboratory Safety Agreement Documentation* **prior** to beginning lab experiments.
7. Students must be registered for the lab section they attend. Failure to attend the student's registered section will result in an F-letter grade being assigned.
8. Canvas is required and students are expected and responsible to check the information therein for information regarding experiments and assignments.
9. Notebooks: Students are required to keep an organized record of lab work in their lab notebooks. An experiment procedure, detailed enough for someone else to follow and repeat the experiment, is expected to be entered into the lab notebook **before starting** each experiment. Your lab TA will provide additional specific information regarding the organization and what to include in the lab notebook. Pre-lab notebook writeups will be uploaded as either \*.pdf or \*.jpg files to Canvas 30 minutes prior to the section start time for each experiment. The TA will grade the introduction and procedure section for the current experiment. All work done in the lab must be summarized in the note book. *No writing on lab report forms is permitted during the lab periods.* All notebook entries must be in ink. Incorrect entries and mistakes should be lined out and followed by correct entries.
10. **The lab reports and post-lab quizzes are due on the Monday following the lab at 11:59pm.** This due date will be the same for both cohorts. Late reports will be assessed a 10% penalty per day. In the case of a University-excused absence on the day a lab report is due the student will have until the day they return to school to turn in their report without penalty.
11. Students must review all lab course scores at the score check meeting time (Week of June 21<sup>st</sup>). It is also recommended that students retain all scored course laboratory work. Teaching assistants will not declare a student's final lab course grade at the score check meeting.
12. The Banner/Access system will automatically drop a student from the CHEM 1215 lab course if the student drops the concurrently enrolled CHEM 1210 lecture course.

### **Course Objectives and Assessment**

CHEM 1215 is a laboratory course designed to explore a range of general chemistry concepts covered in the CHEM 1210 lecture course and put them to use in a laboratory setting. The experiments deal with basic chemistry techniques, assessment of data, synthesis of compounds, determination of chemical composition and characteristics, chemical separations, and the characterization of reactions. Students are expected to develop laboratory skills, learn to use basic instrumentation and keep a research-grade experiment notebook.

Assessment of the course will include an end-of-semester evaluation seeking suggestions for course improvement.

### **Academic Freedom and Professional Responsibilities**

Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations imposed by professional responsibility. [USU Policy 403](#) further defines academic freedom and professional responsibilities.

### **Academic Integrity - "The Honor System"**

The University expects that students and faculty alike maintain the highest standards of academic honesty. The Code of Policies and Procedures for Students at Utah State University ([Student Conduct](#)) addresses academic integrity and honesty and notes the following:

**Academic Integrity:** Students have a responsibility to promote academic integrity at the University by not participating in or facilitating others' participation in any act of academic dishonesty and by reporting all violations or suspected violations of the Academic Integrity Standard to their instructors.

## **Plagiarism**

Plagiarism includes knowingly "representing by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

## **Grievance Process**

Students who feel they have been unfairly treated [in matters other than discipline, admission, residency, employment, traffic, and parking - which are addressed by procedures separate and independent from the Student Code] may file a grievance through the channels and procedures described in the Student Code: [Article VII Grievances](#)

## **Sexual Harassment**

Utah State University is committed to creating and maintaining an environment free from acts of sexual misconduct and discrimination and to fostering respect and dignity for all members of the USU community. Title IX and [USU Policy 339](#) address sexual harassment in the workplace and academic setting.

The university responds promptly upon learning of any form of possible discrimination or sexual misconduct. Any individual may contact [USU's Affirmative Action/Equal Opportunity \(AA/EO\) Office](#) for available options and resources or clarification. The university has established a complaint procedure to handle all types of discrimination complaints, including sexual harassment ([USU Policy 305](#)), and has designated the AA/EO Director/Title IX Coordinator as the official responsible for receiving and investigating complaints of sexual harassment.

## **Students with Disabilities**

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (University Inn # 101, 435-797-2444, [drc@usu.edu](mailto:drc@usu.edu)). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

## **Withdrawal Policy, "I" Grade Policy and Dropping Courses**

If a student does not attend a class during the first week of the term or by the second class meeting, whichever comes first, the instructor may submit a request to have the student dropped from the course. (This does not remove responsibility from the student to drop courses which they do not plan to attend.) Students who are dropped from courses will be notified by the Registrar's Office through their preferred e-mail account.

Students may drop courses without notation on the permanent record through the first 20 percent of the class. If a student drops a course following the first 20 percent of the class, a W will be permanently affixed to the student's record (check [General Catalog](#) for exact dates).

Students with extenuating circumstances should refer to the policy regarding Complete Withdrawal from the University and the Incomplete (I) Grade policy in the General Catalog.

## **Assumption of Risk**

All classes, programs, and extracurricular activities within the University involve some risk, and some involve travel. The University provides opportunities to participate in these programs on a voluntary basis. Therefore, students should not participate in them if they do not care to assume the risks. Students can ask the respective program leaders/sponsors about the possible risks a program may generate, and if students are not willing to assume the risks, they should not select that program. By voluntarily participating in classes, programs, and extracurricular activities, students do so at their own risk. General information about University Risk Management policies, insurance coverage, vehicle use policies, and risk management forms can be found at <http://www.usu.edu/riskmgt/>.

**Mental Health**

Mental health is critically important for the success of USU students. As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at [Counseling and Psychological Services \(CAPS\)](#).

Students are also encouraged to download the "[SafeUT App](#)" to their smartphones. The SafeUT application is a 24/7 statewide crisis text and tip service that provides real-time crisis intervention to students through texting and a confidential tip program that can help anyone with emotional crises, bullying, relationship problems, mental health, or suicide related issues.