CHEM1115 GENERAL CHEMISTRY I LAB

Course Description

This is an experimental laboratory course intended to be taken concurrently with CHEM 1110. The laboratory procedures are chosen to compliment the course work and expand knowledge about working in a laboratory setting. Skills will include making quantitative measurements, carrying out simple calculations and simple statistics, qualitative observations, and interpretation of these observations. Experiments range from determining density by displacement to making quantitative volumetric solutions to qualitative sugar and starch analysis to synthesis of aspirin.

Laboratory Safety will also be an important part of the training.

Corequisite: CHEM 1110

Semester(s) Traditionally Offered: Fall, Spring

Fees

$45 - The laboratory fee for this course goes towards the cost of equipment, chemicals, and preparation of the experiments for this course.

Course Objectives

By the end of this course, you will be able to:

1. Make quantitative measurements of mass, volume, and dimensions using laboratory equipment.
2. Carry out basic calculations to determine density, concentration, hydrogen ion concentration, etc using measurements made in the labs
3. Use observations, calculations, and interpretation to derive results from laboratory procedures.

Instructor
Course Resources

There are no textbook, workbook, or other external resources required for this course. Students will need to carry out simple calculations for some labs using calculators or smart phone apps.

Course Requirements

Each student will:

1. Attendance is required and monitored for every scheduled lab.
2. Safety training is required and a safety statement signature / acknowledgement is required before any procedures are carried out.
3. Personal Protective Gear is required during laboratory procedures. Compliance is mandatory and specified appropriate gear is identified for each laboratory.
4. No FOOD or DRINK is allowed in the teaching laboratory at any time.

Evaluation Methods and Criteria

Compliance with safety requirements is mandatory at all times. Penalties for infraction may include removal from the course and a failing grade

Grading is based upon

1. attendance ~20%
2. carrying out laboratory procedures and completing any required write up, calculations, and follow up questions. ~80%
3. When required, lab write ups are due at end of business the week following the lab. Most students will find it convenient to complete the write up before leaving a lab session and handing it in on the same day as the lab procedure.
3. Quizzes can be given through CANVAS or in laboratory setting as needed. These might account for ~15% of the total grade if given.

**Attendance always counts. There are no "make up" lab sessions ever.**

The lowest lab score is dropped from the calculation.

**Grade Scheme**

The following grading standards will be used in this class:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100 % to 93.0%</td>
</tr>
<tr>
<td>A-</td>
<td>&lt; 93.0 % to 90.0%</td>
</tr>
<tr>
<td>B+</td>
<td>&lt; 90.0 % to 87.0%</td>
</tr>
<tr>
<td>B</td>
<td>&lt; 87.0 % to 83.0%</td>
</tr>
<tr>
<td>B-</td>
<td>&lt; 83.0 % to 80.0%</td>
</tr>
<tr>
<td>C+</td>
<td>&lt; 80.0 % to 77.0%</td>
</tr>
<tr>
<td>C</td>
<td>&lt; 77.0 % to 73.0%</td>
</tr>
<tr>
<td>C-</td>
<td>&lt; 73.0 % to 70.0%</td>
</tr>
<tr>
<td>D+</td>
<td>&lt; 70.0 % to 67.0%</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 67.0 % to 60.0%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 59.0 % to 0.0%</td>
</tr>
</tbody>
</table>

**Course Schedule/Outline**

Outline dates and assignments

**Attendance and Excused Absences Policy**

Attendance is required at every session. Attendance counts for 20% of the final grade. Tardiness is penalized. No lab write up is possible for a session that any student does not attend. Students must be present to carry out the laboratory procedures - if not, score for the lab write-up is zero.

**Nonattendance Policy**
Students May Be Dropped For Nonattendance

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 he or she does not plan to attend.)* This option is typically used for classes that are full and the instructor is trying to make a seat available for another student, but may be considered for other courses. Requests must be made during the first 20 percent of the course and will be considered on an individual student basis. Students who are dropped from courses will be notified by the Registrar's Office through their preferred e-mail account (see 2018-2019 General Catalog [Links to an external site.]).

Assumption of Risk

All classes, programs, and extracurricular activities within the University involve some risk, and certain ones 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, a student does so at his or her 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/riskmgmt/](http://www.usu.edu/riskmgmt/) (Links to an external site.).

Library Services

All USU students attending classes in Logan, at our Regional Campuses, or online can access all databases, e-journals, and e-books regardless of location. Additionally, the library will mail printed books to students, at no charge to them. Students can also borrow books from any Utah academic library. Take advantage of all library services and learn more at [libguides.usu.edu/rc.](http://libguides.usu.edu/rc) (Links to an external site.)

Classroom Civility.

Utah State University supports the principle of freedom of expression for both faculty and students. The University respects the rights of faculty to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede the learning process. Disruptive classroom behavior will not be tolerated. An individual
engaging in such behavior may be subject to disciplinary action. Read Student Code Article V Section V-3 (Links to an external site.) for more information.

University Policies & Procedures

**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. Faculty Code Policy #403 (Links to an external site.) further defines academic freedom and professional responsibilities.

**Academic Integrity – "The Honor System"**

Each student has the right and duty to pursue his or her academic experience free of dishonesty. To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity."

A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

**Academic Dishonesty**

The instructor of this course will take appropriate actions in response to Academic Dishonesty, as defined the University’s Student Code. Acts of academic dishonesty include but are not limited to:

- **Cheating**: using, attempting to use, or providing others with any unauthorized assistance in taking quizzes, tests, examinations, or in any other academic exercise or activity. Unauthorized assistance includes:
  - Working in a group when the instructor has designated that the quiz, test, examination, or any other academic exercise or activity be done “individually;”
Depending on the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments;

- Substituting for another student, or permitting another student to substitute for oneself, in taking an examination or preparing academic work;
- Acquiring tests or other academic material belonging to a faculty member, staff member, or another student without express permission;
- Continuing to write after time has been called on a quiz, test, examination, or any other academic exercise or activity;
- Submitting substantially the same work for credit in more than one class, except with prior approval of the instructor; or engaging in any form of research fraud.

- **Falsification**: altering or fabricating any information or citation in an academic exercise or activity.
- **Plagiarism**: 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 using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials.

For additional information go to: [ARTICLE VI. University Regulations Regarding Academic Integrity](#)

### Sexual Harassment/Title IX

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.

### Withdrawal Policy and "I" Grade Policy

Students are required to complete all courses for which they are registered by the end of the semester. In some cases, a student may be unable to complete all of the coursework because of extenuating circumstances, but not due to poor performance or to retain financial aid. The term ‘extenuating’ circumstances includes: (1) incapacitating
illness which prevents a student from attending classes for a minimum period of two weeks, (2) a death in the immediate family, (3) financial responsibilities requiring a student to alter a work schedule to secure employment, (4) change in work schedule as required by an employer, or (5) other emergencies deemed appropriate by the instructor.

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) (Links to an external site.) as early in the semester as possible (University Inn # 101, (435) 797-2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

Diversity Statement

Regardless of intent, careless or ill-informed remarks can be offensive and hurtful to others and detract from the learning climate. If you feel uncomfortable in a classroom due to offensive language or actions by an instructor or student(s) regarding ethnicity, gender, or sexual orientation, contact:

- Division of Student Affairs: https://studentaffairs.usu.edu (Links to an external site.), (435) 797-1712, studentervices@usu.edu, TSC 220
- Student Legal Services: https://ususa.usu.edu/student-association/student-advocacy/legal-services (Links to an external site.), (435) 797-2912, TSC 326,
- Access and Diversity: http://accesscenter.usu.edu (Links to an external site.), (435) 797-1728, access@usu.edu; TSC 315
- Multicultural Programs: http://accesscenter.usu.edu/multiculture (Links to an external site.), (435) 797-1728, TSC 315
- LGBTQA Programs: http://accesscenter.usu.edu/lgbtqa (Links to an external site.), (435) 797-1728, TSC 3145
- Provost’s Office Diversity Resources: https://www.usu.edu/provost/diversity (Links to an external site.), (435) 797-8176

You can learn about your student rights by visiting: The Code of Policies and Procedures for Students at Utah State University: https://studentconduct.usu.edu/studentcode (Links to an external site.)

Grievance Process

Students who feel they have been unfairly treated may file a grievance through the channels and procedures described in the Student Code: Article VII (Links to an external site.).
Full details for USU Academic Policies and Procedures can be found at:

- Student Conduct (Links to an external site.)
- Student Code (Links to an external site.)
- Academic Integrity (Links to an external site.)
- USU Selected Academic Policies and Procedures (Links to an external site.)
- USU Academic Policies and Procedures (Links to an external site.)
- Academic Freedom and Professional Responsibility Policy (Links to an external site.)

Emergency Procedures

In the case of a drill or real emergency, classes will be notified to evacuate the building by the sound of the fire/emergency alarm system or by a building representative. In the event of a disaster that may interfere with either notification, evacuate as the situation dictates (i.e., in an earthquake when shaking ceases or immediately when a fire is discovered). Turn off computers and take any personal items with you. Elevators should not be used; instead, use the closest stairs.

Course Summary:

<table>
<thead>
<tr>
<th>Date</th>
<th>Details</th>
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<tbody>
<tr>
<td>Thu Sep 5, 2019</td>
<td>Assignment Density by Displacement</td>
</tr>
<tr>
<td></td>
<td>Assignment Inorganic Reactions</td>
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<tr>
<td>Thu Sep 12, 2019</td>
<td>Assignment Normal Saline Prep</td>
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<tr>
<td>Thu Sep 19, 2019</td>
<td>Assignment Bubbles</td>
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<tr>
<td>Thu Sep 26, 2019</td>
<td>Assignment Molecular Models</td>
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<td>Thu Oct 3, 2019</td>
<td>Assignment Lipid Analysis</td>
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<td>Assignment Polyurethane</td>
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<td>Fri Oct 25, 2019</td>
<td>Assignment Titration of Sodium Carbonate by</td>
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<tr>
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<td>Thu Nov 7, 2019</td>
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