CHEMISTRY 1215
PRINCIPLES OF CHEMISTRY I LAB
1 CREDIT HOUR

UTAH STATE UNIVERSITY-
EASTERN
PRICE, UT
FALL 2021

M 3:00 pm – 5:50 pm
RV 230

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Office Hours: 9:30-10:30 am M - F
(or by appointment)
Office No.: RV 250

COVID-19 response: We will be meeting with less than 10 students at a time in a lab designed for 24. You will have the option of working alone or with a partner following social distancing guidelines. Masks and appropriate personal protective equipment will be worn at all times. We will discuss logistics in detail at our first meeting.

1. Course Description: The laboratory course is offered to those students concurrently enrolled in CHEM 1210. The laboratory course offers hands on experience obtaining data in support of topics taught in the lecture sequence. Such concepts are density, the determination of Avagadro's number, gases, chromatography, thermochemistry, stoichiometry, and experiments involving wavelength and light. Students should gain an appreciation of the skills needed to get accurate data and learn chemical manipulations necessary to their chosen fields.

2. Pre-requisites: Math 1050 or equivalent; Concurrent enrollment in Chemistry 1210, or permission of instructor.

3. Course Fee: The course fee of $74 will be used to provide the equipment, chemicals, glassware, supplies, safety equipment, and instrumentation necessary to complete the labs.

4. Course Outline: You will perform eight different experiments which are listed on the CHEM 1215 Canvas site.

5. Laboratory Objectives: At the successful completion of the laboratory part of the course students will be able to:

- Solve simple Metric/English conversion problems involving gram to mole conversions.
- Understand safety precautions when handling chemicals and other hazardous materials
- Apply problem solving skills to solve problems involving experimental data
- Read and follow basic instructions involving chemical experiments to a successful conclusion and be able to explain their results to another student.
- Calculate quantities involved in various chemical reactions.
- Use their knowledge of inorganic chemical nomenclature to name and recognize

various inorganic compounds found in everyday usage.
- Write structural formulas for simple inorganic molecules encountered in the laboratory.

6. Classroom Accommodation for Students With Different Abilities: 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 (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.

7. Policies and Procedures:

a. Attendance Policy: Attendance will not be taken but attending the lab section will be your only opportunity to complete each weeks experiment. No credit will be given for missed labs.

b. Hours of laboratory each week: 3 hours on Mondays from 3:00 pm – 5:50 pm.

c. Required assignments: The prior week's laboratory handed in at the beginning of the next lab exercise. The pre-lab assignment will also be turned in at the start of the lab section.

d. Late policy: 10 points per day will be deducted for late work.

e. Plagiarism statement: No one will take another person's writings and pass them off as his own.

f. The data is gathered in groups of two. Questions and calculations associated with each laboratory are to be the work of each individual and not that of other students.

8. Outcomes Assessment: Each individual student will perform all eight experiments. Answers to the questions contained in each laboratory and the calculations will demonstrate the student's understanding of the laboratory.

- Major exams may contain questions from the laboratory experiments.
- Students will participate in pre-lab and post-lab assessment activities to measure how well the student is grasping the material.

9. Grading Practices: All laboratory write ups are worth a total of 100 points. 8-10 laboratory experiments will be performed. The lab report point total is made up of the following:

- 20 points for correctly answering the questions associated with each pre-lab assignment.
- 30 points for completing the lab and taking notes relating to the experiment performed.
- 30 points for correctly performing the calculations associated with the experiment and understanding where your errors may have occurred.
- 20 points for correctly answering the post-lab questions.

Letter grades follow the conventional scale: 90%, 80%, 70%, 60%, <60%

10. Laboratory Reports: Pre-lab assignments will be submitted at the start of the corresponding lab section. The written portion of the lab experiment will be turned in to your instructor the week following the time when the work is done. Spelling and grammar shall be correct. The report shall be as concise and factual as possible without sacrificing clarity. Most importantly, the report must be an original piece reporting your work. Copying or even paraphrasing of material from textbooks, printed notes, or other reports is clearly dishonest and must be avoided. Make sure that you express your answers with the proper units and to the correct number of significant digits.

11. **SAFETY** While listed here last, safety is of utmost importance. The following procedures will be observed in our laboratory work. You will sign a more detailed safety sheet before the first experiment. This is just a summary of safety issues:

A. Safety glasses will be worn at all times covering the eyes and not around your neck. If there are any exceptions to this, you will be told at the beginning of the laboratory experiment.
B. Leather shoes are preferred **with** socks. Tennis shoes may be worn but must be worn with socks. Heels, open toed shoes, sandals will **not** be permitted.
C. **No** shorts will be worn; only long pants. Skirts and hose are not appropriate laboratory attire.
D. If you wear contact lenses, leave them home. Wear glasses under the safety glasses. Chemicals under contact lenses are most difficult to wash out.
E. **Do not** under any circumstances, taste chemicals. Wash your hands well before using the bathroom during the laboratory period and immediately following the laboratory experiments.
F. In case of a problem in the laboratory, leave though either of two exits and meet in the Reeves parking lot
by the safety shower. In case you cannot see either door, crawl along the floor to a wall, then follow the wall to one of the above mentioned exits.
G. **Do not** eat or drink in the lab. Leave food and drink outside the lab.

The instructor reserves the right to make changes to this syllabus at any time throughout the quarter. Such changes will be announced during class and students not attending class are still responsible for knowing about any and all changes to the syllabus.