Fall 2019 - Chem1215L **General Chemistry I Lab** **Tuesday & Thursday Lab**

Instructor: Dr. Tracy Terry Office A102a tjterry@unm.edu
Lab: Tuesday 10:30-1:15 in Academics 128

Office Hours:

- **UNM Email**: tjterry@unm.edu I check my email regularly, but student emails sometimes get buried in other campus emails. If I do not reply within 24 hours, send me a reminder email.
- **Course Messages**: I will check **Course Messages** in BBLearn each weekday and will respond within 24-48 hours to messages.
- **On-site office hours**: I will be on the UNM-Valencia campus on Tuesdays and Thursdays to teach the laboratory sections. I will be available to answer questions related to the course from 9-10:30 am. Please come during this time to discuss homework problems or other issues related to Chem 1215.
- **Zoom office hours**: Mon, Wed, and Friday 9-10:30 am or by appointment. See BBLearn for details.

Required: Lab coat, safety goggles, lab notebook with duplicates, 3-ring binder

Course Description: General Chemistry I Laboratory for Science Majors is the first semester laboratory course designed to complement the theory and concepts presented in General Chemistry I lecture. The laboratory component will introduce students to techniques for obtaining and analyzing experimental observations pertaining to chemistry using diverse methods and equipment.

Course Requirements

- Students are responsible for all assignments regardless of attendance. There are no make-ups for laboratory experiments or exams.
- Assignments may be turned during lab, or to the Academic Affairs Office, or over email, on the due date.
- Blackboard Learn and the UNM email systems will be used to distribute class announcements and lab handouts. Make sure your contact information is up to date and check your email often.
- Calculators will be used during many labs and need to have log, anti-log, and exponential functions.
- **LABORATORY SAFETY WILL BE CLOSELY MONITORED.** Points will be deducted for safety violations.
- Mandatory laboratory clothing: **GOGGLES**, closed toed flat **shoes**, and **LAB COATS** are all **REQUIRED FOR MOST LABs**. **Students without proper personal protective equipment will not be allowed in lab.**

Grading

390 pts	Experiments, Activities, BBLearn Quizzes
100 pts	Final Exam (~20% of final grade)

The exam will consist of three components: a question/answer component, basic measurements, and developing a procedure based on previous labs. More information will be posted closer to exam time.

Grades: 98-100% A+, 92-97% A, 90-92% A-; 88-89% B+, 83-87% B, 80-82% B-; 78-79% C+, 73-78% C, 69-72% C-; 60-68%=D; <60%=F
The total number of points collected for experiments may change if a lab must be cancelled.

Student Learning Objectives

By the end of the course, students will be able to…

1. Demonstrate and apply concepts associated with laboratory safety, including the possible consequences of not adhering to appropriate safety guidelines.

2. Demonstrate the computational skills needed to perform appropriate laboratory related calculations to include, but not be limited to determining the number of significant figures in numerical value with the correct units, solving problems using values represented in exponential notation, solving dimensional analysis problems, and manipulating mathematical formulas as needed to determine the value of a variable.

3. Perform laboratory observations (both qualitative and quantitative) using sensory experience and appropriate measurement instrumentation (both analog and digital).

4. Prepare solutions with an acceptable accuracy to a known concentration using appropriate glassware.

5. Master basic laboratory techniques including, but not limited to weighing samples (liquid and solid), determining sample volumes, measuring the temperature of samples, heating and cooling a sample or reaction mixture, decantation, filtration, and titration.

6. Demonstrate mastery in experimental techniques, such as pressure measurements, calorimetric measurements, and spectrophotometric measurements

7. Draw conclusions based on data and analyses from laboratory experiments.

8. Present experimental results in laboratory reports of appropriate length, style and depth, or through other modes as required.

9. Relate laboratory experimental observations, operations, calculations, and findings to theoretical concepts presented in the complementary lecture course.

10. Design experimental procedures to study chemical phenomena.

General Campus Policies

Academic Honesty

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, including dismissal, against any student who is found responsible for academic dishonesty. Any student who has been judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; and misrepresenting academic or professional qualifications within or outside the University.

Equal Access

If you have a documented disability, please make sure Equal Access Services has contacted me as soon as possible to ensure that your accommodations are provided in a timely manner.

Title IX

In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education (see pg 15 - http://www2.ed.gov/about/offices/list/ocr/docs/qa-201404-title-ix.pdf). This designation requires that any report of gender discrimination which includes sexual harassment, sexual misconduct and sexual violence made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu). For more information on the campus policy regarding sexual misconduct, see: https://policy.unm.edu/university-policies/2000/2740.html

Equal Opportunity

Harassment is a form of discrimination. When University faculty, administrators, and supervisors witness or receive a written or oral report or complaint of discrimination or harassment, they are required to engage in appropriate measures to prevent violations of this policy and promptly notify OEO, including notification of any actions taken to achieve informal resolution of the complaint. The University relies on its employees to notify the University's OEO office of all disclosures of discrimination and harassment as defined in this policy. https://policy.unm.edu/university-policies/2000/2720.html

WEEK	CHEM 123L Schedule	Course Learning Objectives	Required
wk 1 Aug 20/22	**Discuss: Schedule, Syllabus, Safety, Unit Conversion Activity**	**1, 2**	
wk 2 Aug 27/29	**It's All About the Weight – Activity Measurements**	**2, 3, 5, 7**	**BBL PreLab – Safety Quiz**
wk 3 Sept 3/5	**How to Keep a Lab Notebook** **Popcorn Activity** Turn in completed Weight Activity	**3, 7, 10**	**BBL PreLab – Measurements, Scientific Method**
wk 4 Sept 10/12	**Pottery and Pigments**	**1, 3, 7, 8, 9**	- **Lab ntbk** with completed pre-lab **- Lab coat, goggles, closed-toe shoes**
wk 5 Sept 17/19	**Copper Reactions and Percent Yield** *Turn in completed Pottery/Pigments*	**1, 2, 3, 5, 8, 9**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** with completed pre-lab
wk 6 Sept 24/26	**Chemical Reactions** *Turn in completed Cu Reactions.*	**1, 5, 7, 8, 9**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** with completed pre-lab
wk 7 Oct 1/3	**Gas Stoichiometry: The Automobile Airbag** *Turn in completed Chem Reactions.*	**1, 2, 5, 7, 8, 9**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** with completed pre-lab
wk 8 Oct 8/10	**No Lab – Fall Break**		
wk 9 Oct 15/17	**Hess's Law: A Study of the Combustion of Magnesium** *Turn in completed Airbag lab.*	**1, 2, 5, 7, 8, 9**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** with completed pre-lab
wk 10 Oct 22/24	**Dilutions and Spectroscopy** *Turn in completed Hess's Law.*	**1, 2, 4, 5, 6**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** with completed demo procedure and reaction description
wk 11 Oct 29/31	**Atomic Spectra and Light**	**1, 3, 7, 9**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** (no prelab)
wk 12 Nov 5/7	**Redox – Breathalyzer** *Turn in completed Atomic Spectra*	**1, 3, 7, 8, 9**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk** with completed pre-lab
wk 13 Nov 12/14	**Part I of LDS/VSEPR/IMF Worksheet** *Turn in completed Breathalyzer*		**-Lab ntbk** with completed pre-lab
Wk 14 Nov 19/21	**Spectroscopy** and **Part II of LDS/VSEPR/IMF WS**	**4, 6, 10**	
Wk 15 Nov 26/28	**No Lab - Thanksgiving** *Completed LDS/VSEPR/IMF Worksheet*		
Wk 16 Dec 3/5	**Lab Exam**	**1**	**- Lab coat, goggles, closed-toe shoes** **-Lab ntbk**
Final Exam Week **no assignments, no lab**			