

**Fall 2018 - Chem123L****General Chemistry I Lab****Tuesday & Thursday Lab**

**Instructor:** Dr. Tracy Terry Office A102a  
**Lab:** Tuesday 10:30-1:15 in Academics 128

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**Office Hours:** Mon 1:30-2:30 (Office)  
Tues 2:30 – 4:00 (STEM Center)  
Wed 10:30 am – 12 pm, 1:00-3:00 pm

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

**Course Description:** This course is designed to provide practice in laboratory measurements, using laboratory glassware and instrumentation, communicating scientific information, and in performing chemical calculations.

**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**

330 pts Experiments, Activities, BBLearn Quizzes  
130 pts Mole Day Poster Presentation (~23% of final grade)  
100 pts Final Exam (~18% 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.

**Important Dates**

**Last Day to Drop the Class** (with a full refund and without a grade) – Friday, Sept 7<sup>th</sup>

**Student Demonstration and Poster -**

**Oct 2/4** (20 pts) – Student Demonstration Proposal Due

**Oct 23/25** (20 pts) – Student Demonstration

**Oct 30 / Nov 1** (20 pts) – Student Demonstration Poster (first draft)

**Nov 23** (40 pts) – Student Demonstration Poster (final draft)

**Nov 24/26** (30 pts) – Student Demonstration Poster Presentation

**Final Exam – Dec 4/6** (100 pts) - Bring lab notebook and 3-ring binder with graded labs for reference.

## Student Learning Objectives

**By the end of the course, students will be able to...**

1. Conduct laboratory experiments safely by wearing appropriate protective equipment and by handling and disposing of chemicals correctly.
2. Properly use a lab notebook to record experimental data and observations with correct significant figures and units.
3. Make meaningful analyses of experimental data and summarize results in a proper format.
4. Prepare scientific graphs to demonstrate quantitative relationships between variables.
  - a. Popcorn Activity
  - b. Gas Stoichiometry
5. Demonstrate mastery in making chemical measurements.
  - a. Weight Activity
  - b. Gas Stoichiometry
  - c. Combustion of Magnesium
6. Demonstrate mastery in experimental techniques including: the preparation of solutions using volumetric glassware, conducting isolation methods such as filtration, conducting calorimetric measurements, and conducting spectrophotometric measurements.
  - a. Copper Reactions
  - b. Combustion of Magnesium
  - c. Atomic Spectra and Light
7. Write simple hypotheses based on selected chemical principles and/or observations.
  - a. Gas Stoichiometry
8. Design experimental procedures for simple lab questions.
  - a. Gas Stoichiometry
9. Communicate scientific arguments effectively and logically in written and oral forms.
  - a. Mole Day Poster and general lab reports

## 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	Required
wk 1 Aug 21/23	Discuss: Schedule, Syllabus, Safety, Mole Day Demos Unit Conversion Activity	
wk 2 Aug 28/30	It's All About the Weight – Activity Measurements	BBL PreLab – Safety Quiz
wk 3 Sept 4/6	How to Keep a Lab Notebook Popcorn Activity Turn in completed Weight Activity <b>Friday, Feb 7<sup>th</sup> – Last day to drop with full refund</b>	BBL PreLab – Measurements, Scientific Method
wk 4 Sept 11/13	Pottery and Pigments	- Lab ntbk with completed pre-lab - Lab coat, goggles, closed-toe shoes
wk 5 Sept 18/20	Copper Reactions and Percent Yield <i>Turn in completed Pottery/Pigments</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab
wk 6 Sept 25/27	Chemical Reactions <i>Turn in completed Copper Reactions.</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab
wk 7 Oct 2/4	*** Mole Day Demonstration – Proposal Due *** Gas Stoichiometry: The Automobile Airbag <i>Turn in completed Chemical Reactions.</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab
wk 8 Oct 9/11	No Lab – Fall Break	
wk 9 Oct 16/18	Hess's Law: A Study of the Combustion of Magnesium <i>Turn in completed Airbag lab.</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab
wk 10 Oct 23/25	Mole Day Demonstrations <i>Turn in completed Hess's Law.</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed demo procedure and reaction description
wk 11 Oct 30 Nov 1	Atomic Spectra and Light <i>Turn in digital first draft of Mole Day poster</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk (no prelab)
wk 12 Nov 6/8	Redox – Breathalyzer ( <i>Subject to Change</i> ) <i>Turn in completed Atomic Spectra</i>	- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab
wk 13 Nov 13/15	Part I of LDS/VSEPR/IMF Worksheet <i>Turn in completed Breathalyzer (wk 12).</i>	-Lab ntbk with completed pre-lab
Wk 14 Nov 20/22	No Lab - Thanksgiving <i>Final digital draft of Mole Day Poster due before Thanksgiving.</i>	
Wk 15 Nov 24/26	Lab Poster Session <i>Completed LDS/VSEPR/IMF Worksheet</i>	
Wk 16 Dec 4/6	Lab Exam	- Lab coat, goggles, closed-toe shoes -Lab ntbk
<b>Final Exam Week</b> <b>no assignments, no lab</b>		