

General Chemistry II Lab

Instructor: Dr. Terry Office A102a tjerry@unm.edu
Lab: Thurs 10:30-1:15 in Academics 128
Tutoring Hours: Mon/Tue 2 pm – 3:30 pm (STEM Center)
Wed 10:30 – noon and 1 – 3 pm (Office A102a)

Required Supplies: Lab Coat, Safety Goggles, Lab Notebook, 3-ring binder

Course Description: Continued practice in laboratory experimentation reinforcing topics taught in the second semester of General Chemistry.

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 time, or to the Academic Affairs Office, or over email, on the due date.
- Blackboard Learn and the UNM email system 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 in most labs and need to have log, anti-log, and exponential functions.
- **LABORATORY SAFETY WILL BE CLOSELY MONITORED.** (*Safety Rules may be found in the first lab worksheet.*) Points will be deducted for safety violations (food in lab, not wearing goggles properly, etc.).
- Mandatory laboratory clothing: **GOGGLES**, closed toed flat **shoes** (no high heels, no exposed toes, no exposed heels), and **LAB COATS** are **REQUIRED FOR MOST LABS**.
- All students will behave in a safe manner: wear appropriate PPE and attend the pre-lab lecture, which includes a discussion of safety and waste disposal specific to that day's lab.
- Students will be prepared for lab. Pre-lab assignments and procedures will be checked at the beginning of lab.

Students without proper PPE, who do not have a written procedure, or who miss the pre-lab lecture will not be allowed to complete lab.

Course Objectives

1. Conduct laboratory experiments safely by wearing appropriate protection and by handling and disposing of chemicals correctly.
2. Prepare scientific graphs to demonstrate quantitative relationships between variables.
3. Prepare solutions and dilutions accurately and correctly.
4. Demonstrate mastery in experimental techniques and measurements including: titrations, spectrophotometric measurements, vacuum filtrations, monitoring reaction rates, pH measurements, and voltage measurements from electrochemical cells.
5. Write appropriate hypotheses for lab questions based on observations and scientific theories.
6. Properly use a lab notebook to record experimental data and observations with correct significant figures and units.

7. Make meaningful analysis of experimental data and summarize the results in a proper format.
8. Communicate scientific arguments effectively and logically in a written and an oral form.

Grading

~330 pts	Experiments (30 pts each) and Activities (~ 30 pts each) 10 pts - Pre-lab Questions and Procedures 20 pts - Data/Observations and Post-Lab Questions
90 pts	Formal Poster Presentation (~17%) 40 pts First draft of poster (due Mar 10 th) 40 pts Final draft of poster for printing (due Mar 24 th) 10 pts Formal poster presentation (Apr 14 th)
100 pts	Final Exam (~19%) 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.

General Campus Policies – Reminder

- 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.

Students caught cheating may receive a zero on the assignment, be dropped from the course, or receive a grade of 'F' for the course depending on the severity of the offense.

If you have a documented disability, please make sure the instructor was provided with a copy of your letter from **Equal Access Services** as soon as possible to ensure that your accommodations are provided in a timely manner.

Important Dates

Last Day to Drop with Full Refund – Friday, Feb 5th

Spring Break – no lab March 17th

Poster Rough Draft Discussion – March 3rd

Poster Presentation 1st Draft – March 10th, bring digital copy to lab

Poster Presentation Final Draft – March 24th

Poster Session – Apr 14th

Final Exam — Bring lab notebook and 3-ring binder with graded labs for reference.

Week	Date	Fall 2015 Chem 124 Lab Schedule	
		Lab	Notes
1	Jan 21	<ul style="list-style-type: none"> Measurements WS Using a Lab Notebook Poster Presentation 	Do not need to bring anything. Online Lab Safety Quiz, Lab Equipment Quiz
2	Jan 29	Jet Fuel for Thought Activity <i>Due: Online Quizzes</i>	Bring lab notebook and PPE*
3	Feb 4	Freezing Point Depression Lab <i>Due: Fuel for Thought Activity</i>	Bring lab notebook and PPE*
4	Feb 11	Ca Titration of Whitfield Soil Extract <i>Due: Weak Acid Report</i>	Bring lab notebook and PPE*
5	Feb 18	Kinetics of Bleach <i>Due: FP Depression Report</i>	Bring lab notebook and PPE* <i>Don't wear nice clothes.</i>
6	Feb 25	Colorimetric Quantification of Phosphate in Whitfield Soil Extract <i>Due: Kinetics Report</i>	Bring lab notebook and PPE*
7	Mar 3	Le Chatelier's Principle	Bring lab notebook and PPE*
8	Mar 10	Research Poster First Draft Discussion Safety Violations Photo Shoot <i>Due: Le Chat. Report, Research Poster</i>	Bring lab notebook
9	Mar 17	Spring Break <i>No Lab</i>	Complete Research Poster
10	Mar 24	Intro to Acids and Bases <i>Due: Research Poster final draft</i>	Bring lab notebook and PPE*
11	Mar 31	Determine K_a of Weak Acid <i>Due: Intro to Acids and Bases</i>	Bring lab notebook and PPE*
12	Apr 7	Ocean Acidification Activity <i>Due: Determine K_a of Weak Acid</i>	Bring lab notebook and PPE*
13	Apr 14	Poster Session <i>Due: Weak Acid Report</i>	Bring lab notebook and PPE*
14	Apr 21	Thermodynamics of Malic Acid Dissolution	Bring lab notebook and PPE*
15	Apr 28	Electrochemistry <i>Due: Thermo Report, Final Draft of Poster</i>	Bring lab notebook and PPE*
16	May 5	Lab Final Exam	Lab notebook and PPE required

*Must bring lab notebook, goggles, & lab coat to this lab and every lab hereafter.