Chem 124L (501) **Fall 2015**

General Chemistry II Lab

Instructor:	Dr. Tracy Terry	Office A102a	tjterry@unm.edu
Lab:	Mon 10:30-1:15 in Academics 128		
Tutoring Hours:	M/Tu 2 pm – 4 pm (STEM Center)		Wed 1pm – 4pm (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 into 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 all **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 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

~400 pts	**Experiments** (30 pts each, ~5%) **and Activities** (pts vary)
	10 pts - Pre-lab Questions and Procedures
	20 pts - Data/Observations and Post-Lab Questions
100 pts	**Formal Poster Presentation** (~15%)
	45 pts First draft of poster (due Nov 9th)
	45 pts Final draft of poster for printing (due Nov 23rd)
	10 pts Formal poster presentation (Nov 30th)
100 pts	**Final Exam** (~15%)
	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.

Up to 30 extra points may be acquired by participating in Mole Day. Information on these points may be found on BBLearn.

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 provide the instructor 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, Sept 4th
Labor Day – no lab – Monday, Sept 7th
Poster Presentation 1st Draft – Nov 9th
Poster Presentation Final Draft – Nov 23rd
Final Exam – Nov 30th - – Bring lab notebook and 3-ring binder with graded labs for reference.

Week	Date	Fall 2015 Chem 124 Lab Schedule	
		Lab	**Notes**
1	**Aug 17**	• Measurements WS • Using a Lab Notebook • Poster Presentation	Do not need to bring anything. Online Lab Safety Quiz, Lab Equipment Quiz
2	**Aug 24**	Jet Fuel for Thought Activity	Bring lab notebook and PPE*
3	**Aug 31**	Freezing Point Depression Lab	Bring lab notebook and PPE*
4	**Sept 07**	**Labor Day – *no lab***	**No Lab**
5	**Sept 14**	**Kinetics of Bleach** *Due: FP Depression Report*	Bring lab notebook and PPE* *Don't wear nice clothes*.
6	**Sept 21**	**Colorimetric Quantification of Phosphate in Whitfield Soil Extract** *Due: Kinetics Report*	Bring lab notebook and PPE*
7	**Sept 28**	**Cobalt Complex Synthesis** *Due: Phosphate Report*	Bring lab notebook and PPE*
8	**Oct 05**	**Le Chatelier's Principle** *Due: Cobalt Synthesis Report*	Bring lab notebook and PPE*
9	**Oct 12**	**Intro to Acids and Bases** *Due: Le Chat Report*	Bring lab notebook and PPE*
10	**Oct 19**	**Determine K_a of Weak Acid** *Due: A/B Report*	Bring lab notebook and PPE*
11	**Oct 26**	**Ca Titration of Whitfield Soil Extract** *Due: Weak Acid Report*	Bring lab notebook and PPE*
12	**Nov 2**	**Colorimetric Quantification of Nitrate in Whitfield Soil Extract** *Due: Ca Report*	Bring lab notebook and PPE*
13	**Nov 9**	**Ocean Acidification Activity** *Due: Nitrate Report, First Draft of Poster*	Bring lab notebook and PPE*
14	**Nov 16**	**Thermodynamics of Malic Acid Dissolution**	Bring lab notebook and PPE*
15	**Nov 23**	**Electrochemistry** *Due: Thermo Report, Final Draft of Poster*	Bring lab notebook and PPE*
16	**Nov 30**	**Lab Final Exam**	**Location TBD** Lab notebook and PPE required

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