Chem 123L (501)  Sp 2016

General Chemistry I 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 – 3:30 pm (STEM Center)
               Wed 10:30 – noon & 1 pm – 3 pm (Office A102a)
               Thurs by appointment

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

Course Description: Practice in laboratory measurements, in performing chemical reactions, and in 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 into the Academic Affairs Office, or over email, on the due date.
- The 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 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 shoes (no high heels, no exposed toes, no exposed heels), and LAB COATS are all REQUIRED FOR MOST LABS. Students without proper personal protective equipment will not be allowed in lab.

Grading

~340 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%)
          10 pts Hypothesis, Procedure, Materials (Feb 29th)
          40 pts First draft of poster (Mar 28th)
          40 pts Final draft of poster for printing (Apr 18)
          10 pts Formal poster presentation (May 2)

100 pts  Final Exam
          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
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. Demonstrate mastery in experimental techniques and measurements including: volumetric measurements, isolation methods such as filtration, calorimetric measurements, and spectrophotometric measurements.
4. Write simple hypotheses based on selected chemical principles and or observations.
5. Design experimental procedures for simple lab questions.
6. Properly use a lab notebook to record experimental data and observations with correct significant figures and units.
7. Make meaningful analyses of experimental data and summarize results in a proper format.
8. Communicate scientific arguments effectively and logically in a written and an oral form.

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.

Equal Access
If you have a documented disability, please provide me 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 the Class (with a full refund and without a grade) – Friday, Feb 5th
Formal Poster Presentation -
  Feb 29th – Turn in hypothesis, procedure, materials list
  Mar 7th – Perform experiment
  Mar 28th – First draft of formal poster presentation is due
  Apr 18th – Final draft of formal poster presentation is due for printing.
  May 2nd – Formal poster presentation
Final Exam – Apr 25th - Bring lab notebook and 3-ring binder with graded labs for reference.
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<thead>
<tr>
<th>WEEK</th>
<th>CHEM 123L Schedule</th>
<th>Required</th>
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<tbody>
<tr>
<td>wk 1</td>
<td>Jan 18th MLK No lab</td>
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<td>wk 2</td>
<td>Jan 25 Schedule, Syllabus, Safety Measurements, Significant Figures</td>
<td>Nothing required</td>
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<td>wk 3</td>
<td>Feb 1 How to Keep a Lab Notebook</td>
<td>Complete online quizzes before midnight, Jan 31&lt;sup&gt;st&lt;/sup&gt; Safety, Equipment, Measurements</td>
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<td>wk 4</td>
<td>Feb 8 Nomenclature Worksheet</td>
<td>Turn in completed pre-lab</td>
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<tr>
<td>wk 5</td>
<td>Feb 15 Chemical Reactions of Copper and Percent Yield</td>
<td>- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab</td>
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<tr>
<td>wk 6</td>
<td>Feb 22 Chemical Reactions</td>
<td>- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab</td>
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<td>wk 7</td>
<td>Feb 29 Stoichiometry Relay Race (one round)</td>
<td>-Lab ntbk for note taking</td>
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<td>Gas Stoichiometry: The Automobile Airbag</td>
<td>At the end of lab time, submit: A hypothesis (written and graphical), procedure, and supply list for the Auto Airbag experiment</td>
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<td>wk 8</td>
<td>Mar 7 Gas Stoichiometry: The Automobile Airbag</td>
<td>- Lab coat, goggles, closed-toe shoes - Lab ntbk &amp; Spiral binder</td>
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<td>wk 9</td>
<td>Mar 14 Spring Break</td>
<td>Work on Poster</td>
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<td>wk 10</td>
<td>Mar 21 Hess’s Law: A Study of the Combustion of Magnesium</td>
<td>- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab</td>
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<td>wk 11</td>
<td>Mar 28 Atomic Spectra</td>
<td>- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab</td>
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<td>wk 12</td>
<td>Apr 04 Redox – Breathalyzer (Subject to Change)</td>
<td>- Lab coat, goggles, closed-toe shoes -Lab ntbk with completed pre-lab</td>
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<td>wk 13</td>
<td>Apr 11 Part I of LDS/VSEPR/IMF Activity</td>
<td>-Lab ntbk with completed pre-lab</td>
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<td>Wk 14</td>
<td>Apr 18 Part 2 of LDS/VSEPR/IMF Activity</td>
<td>-Lab ntbk with completed pre-lab</td>
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<td>Final Exam</td>
<td>Apr 25 Lab Practical</td>
<td>- Lab coat, goggles, closed-toe shoes -Lab ntbk</td>
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<td>Wk 16</td>
<td>May 2 Lab Poster Presentation</td>
<td>Final Exam Week - no assignments, no lab</td>
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