

Fall 2009

## CHEMISTRY 111 LABORATORY GENERAL INFORMATION AND GROUND RULES

### Laboratory Instructor

Name: \_\_\_\_\_  
Office: \_\_\_\_\_ Office hours: \_\_\_\_\_ Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

**Lab Experiments are online** <http://www.cerritos.edu/mzewail> You are required to download, print out, and read the experiment before coming to the lab. You will not be allowed to attend the lab if you do not have your experiment with you. You must staple all pages of the experiment.

### Materials available from the bookstore:

- 1) Packet, Safety in the Chemistry Laboratory. This material can be downloaded and printed from my webpage listed above.
- 2) Scan-tron #882 for the Safety Quiz
- 2) SAFETY GOGGLES which have splash protection in compliance with ANSI Z87.1-1989 as required by California State law.
- 3) A scientific calculator Graphing calculators are not allowed in quizzes and exams. Also, calculators in combination with electronic communication devices are not allowed.
- 4) Lab apron/coat

**SAFETY:** All safety procedures specified in the packet, Safety in the Chemistry Laboratory, must be followed at all times in the laboratory. Failure to work safely in accordance with those as well as any other safety procedures presented to you in the safety video, in written experiment instructions, or verbal instructions from your lab instructor, can result in your being removed from the lab. Failure to wear safety goggles can result in your being removed from the lab.

### Experiments:

- You will be doing the experiments in the order in which they are listed in the course schedule.
- If you fail to successfully complete **two or more experiments** (including lab reports), your course grade will be no higher than a "D".
- You are responsible for reading the experiment before coming to the lab.
- You are to perform each experiment without a partner unless otherwise directed by the instructor.

### Data:

- Data is to be recorded in non-erasable ink only, directly onto the report sheet.
- If you make a mistake, draw a single line through the incorrect data and write the correct one above. No "whiting-out" is acceptable.
- Have your data initialed and dated before you leave the lab (no credit without initials).

**Lab make-up:**

- For permission to attend another Chem111 lab to do make-up work, obtain a permission card from your instructor.
- Be sure to have the instructor in the lab that you visit initial your data.

**Unknowns:**

- You will be graded for the accuracy and precision of the results obtained in those experiments that involve unknowns.
- There are 10 points for the accuracy and 10 points for the precision of each unknown sample.
- If you are given a second unknown sample in order to repeat the experiment, four points may be deducted from your score for the accuracy or precision for that experiment.

**Reports:**

- The completed Report Sheet(s) is due as indicated in the schedule.
- Each Report is worth 20 points.
- Late Reports will be accepted only at the discretion of the professor. Late reports, if accepted by the professor, will be discounted 2 points per lab period (4 points per week). Reports turned in more than 4 labs late will not be accepted and you will receive no credit.

**Quizzes:**

- One quiz will be given for each experiment. The quiz will be given as indicated in the schedule.
- Each quiz is worth 20 points.
- There will be no make-up quizzes given.
- You will be expected to take the quiz whether or not you have completed the experiment.
- At the end of the semester your lowest quiz score will be dropped.

**Safety quizzes:**

- A Safety Quiz will be given on the date indicated in the laboratory schedule. You will prepare for this quiz by reading the packet, Safety in the Chemistry Laboratory. You must get a satisfactory score on this safety quiz, which may be done by scoring at least 90%
- If you do not receive a satisfactory score on the Safety quiz, you will be allowed to retake the quiz **once**, at a place and time arranged by your instructor. **If you do not get a satisfactory score when you retake the quiz you will receive an F grade for the laboratory portion of the course. If you choose not to drop the class but to remain, knowing that the lab grade and therefore the course grade will be an F, you will NOT be allowed to do any experiments.**

**Homework:**

- Homework assignments are listed in the course schedule given out in lecture.
- Homework assignments will be collected at the discretion of your lecture instructor.

- If you need help with the homework problems, ask your lab instructor.

Note: If you fail to successfully complete two or more experiments (including lab reports), your course grade will be no higher than a "D".

**Grading structure:**

% Q = percent of total possible points on lab quizzes plus unknowns.

% R = percent of total possible points on reports.

$\text{Lab overall \%} = \frac{4(\% \text{ Q}) + (\% \text{ R})}{5}$
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- Your lab grade accounts for 35 % of your overall grade in Chem 111.
- To pass Chem 111 you must pass (D or better) both the lab and the lecture.**

**Grading scale:**

<u>%</u>	<u>Letter grade</u>
90-100	A
80- 89	B
70-79	C
60-69	D
59 and below	F

**Student locker responsibility:** Each student will be assigned a drawer and a combination to its Master Lock. Once a drawer is assigned, the Lock, combination, and drawer contents become the responsibility of the student. You will be charged for any missing or broken glassware or equipment.

**Community drawer responsibility:** The community drawers contain items of equipment that are not found in a student's assigned drawer. These items are shared among Chem 111 and Chem 112 students in other lab sections. You may use these items during a lab, but they must be returned to the community drawers before you leave the laboratory. If any of these items are found in your assigned drawer, the item will be removed and you will be fined.

**Dropping the course:**

- You must check-in your drawer during your regularly scheduled lab period before dropping.
- If the above is not possible, then contact the stockroom by phone [Tel # (562)860-2451, Ext 2695] to make an appointment. However, the stockroom will charge you a fee if they check you in.
- You will be placed on an administrative hold if you fail to check-in and/or pay any debt owed to the stockroom .

**Cheating policy:**

- If you cheat, you will be dismissed from the course with an "F" grade.

<b>Tuesday</b>	<b>Thursday</b>
<p><b>Aug 18</b></p> <p>Introduction  <b>Exp 1</b>-Uncertainty in Measurements            Begin reading Safety Book            Video: Safety in the lab</p>	<p><b>Aug 20</b></p> <p><b>Exp 2</b>-Precision and Accuracy</p>
<p><b>Aug 25</b></p> <p>Locker Check-in, Clean Glassware  <b>Packet:</b> Graphing            Quiz- Safety in the Chemistry Laboratory            Quiz: Exp 1  <i>*Do not hand in: Exp 1</i></p>	<p><b>Aug 27</b></p> <p><b>MUST HAVE GOGGLES</b></p> <p><b>Exp 3</b>-Laboratory Weighing            Quiz: Exp 2  <i>*Do not hand in Exp 2</i></p>
<p><b>Sept 1</b></p> <p>Exp 4-Titration of a Solid.  <b>Video: The Use of the Buret.</b>  <b>Hand in three graphs from Graphing Packet</b>            Report- Exp 3 (There is no Quiz on Exp 3)</p>	<p><b>Sept 3</b></p> <p>Finish Exp 4-Titration of a Solid.</p>
<p><b>Sept 8</b></p> <p><b>Exp 5</b>-Determination of an Empirical Formula            Quiz- Exp 4            Report Exp 4</p>	<p><b>Sept 10</b></p> <p><b>Finish Exp 5</b>            Start Packet: Gas Review</p>
<p><b>Sept 15</b></p> <p><b>Exp 6</b>-Determination of the Gas Constant, R.            Quiz- Exp 5            Report-Exp 5</p>	<p><b>Sept 17</b></p> <p>Packet: Gas Review</p>
<p><b>Sept 22</b></p> <p>Continue: Packet: Gas Review            First Quiz on Gas Review Packet</p>	<p><b>Sept 24</b></p> <p>Finish: Gas Review Packet</p>
<p><b>Sept 29</b></p> <p><b>Exp 7</b>-Crystal Structures            Second Quiz on Gas Review Packet and            Exp 6            Report- Exp 6</p>	<p><b>Oct 1</b></p> <p>Finish Exp 7</p>
<p><b>Oct 6</b></p> <p><b>Exp 8</b>- Reactions of Copper</p>	<p><b>Oct 8</b></p> <p>Finish Exp 8            Quiz- Exp 7            Report- Exp 7</p>
<p><b>Oct 13</b></p> <p><b>Exp 9</b>- Colloids            Quiz- Exp 8            Report- Exp 8</p>	<p><b>Oct 15</b></p> <p><b>Exp 10</b>-Electrical Conductivity            Quiz- Exp 9            Report- Exp 9</p>
<p><b>Oct 20</b></p> <p><b>Exp 11</b>- Freezing Point Depression</p>	<p><b>Oct 22</b></p> <p>Finish Exp 11: Freezing Point Depression            Quiz- Exp 10            Report- Exp 10.</p>

<b><u>Monday</u></b>	<b><u>Wednesday</u></b>
<b><u>Oct 27</u></b> Exp12A-Standardization of a NaOH Solution Quiz-Exp 11 Report-Exp 11	<b><u>Oct 29</u></b> Exp 12B-Titration of an Acid
<b><u>Nov 3</u></b> <b>Exp 13-</b> pH and Its Measurement Reports- Exp's 12A and 12B Quiz- Exp's 12A and 12B	<b><u>Nov 5</u></b> Finish Exp 13
<b><u>Nov 10</u></b> <b>Exp 14-</b> K <sub>a</sub> of Acetic Acid Report- Exp 13 Quiz- Exp 13	<b><u>Nov 12</u></b> <b>Exp 15-</b> K <sub>a</sub> of Unknown Acid Quiz- Exp 14 Report- Exp 14
<b><u>Nov 17</u></b> Finish Exp 15.	<b><u>Nov 19</u></b> <b>Exp 16-</b> Buffer Solutions Quiz- Exp 15 <b>Report- Exp 15</b>
<b><u>Nov 24</u></b> Finish Exp 16- <i>You will get assistance from the instructor with the calculations involved in Exp16</i> <b>Exp 17-</b> Reactions of Salts with Water	<b><u>Nov 26</u></b> <b>HOLIDAY</b>
<b><u>Dec 1</u></b> Finish Exp 17- <i>You will get assistance from the instructor with the calculations involved in Exp17.</i> <b>Exp 18-</b> Solubility. Quiz- Exp 16 <b>Report- Exp 16</b>	<b><u>Dec 3</u></b> Continue Exp 18 Quiz- Exp 17 Report- Exp 17
<b><u>Dec 8</u></b> <b>Finish Exp 18. You will get assistance from the instructor with the calculations involved in Exp 18.</b>	<b><u>Dec 10</u></b> Report- Exp 18 Quiz- Exp 18 (NOTE: Your score for quiz Exp 18 cannot be dropped as your lowest score.)
<b><u>Dec 15</u></b> Check with your lab instructor on the date and time for Checking-out and Paying Bill	<b><u>Dec 17</u></b> Check with your lab instructor on the date and time for Checking-out and Paying Bill

