

SPRING 2018

CHEMISTRY 111 LABORATORY GENERAL INFORMATION AND GROUND RULES

Lab Experiments are online at http://cms.cerritos.edu/chemistry/chem_111/ You are required to download, print out, and read the experiment before coming to lab. You will not be allowed to attend lab if you do not have your experiment with you. You must staple all pages of the experiment.

Materials available online:

- Packet, [Safety in the Chemistry Laboratory](#)
- [Practice Quiz Safety in the Chemistry Lab](#)

The above material can be downloaded and printed from the webpage www.cerritos.edu/chemistry

Materials available from the bookstore:

- Scan-tron #882 for the Safety Quiz
- **SAFETY GOGGLES** which have splash protection in compliance with ANSI Z87.1-1989 as required by California State law.
- A scientific calculator - Calculators in combination with electronic communication devices are not allowed.
- Lab apron

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 2 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.**

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.

$$\text{Lab overall \%} = \frac{4(\%Q) + (\%R)}{5}$$

- Your lab grade accounts for 33 % of your overall grade in Chem 111.
- **To pass Chem 111 you must pass (D or better) both the lab and the lecture.**

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 your drawer.

Cheating policy:

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

Spring Chemistry 111 Lab Schedule

<i>Tuesday</i>	<i>Thursday</i>
<u><i>Jan 9</i></u>	<u><i>Jan 11</i></u>
<ul style="list-style-type: none"> • Introduction • <u>Online Material</u>: <i>Safety in the Chemistry Laboratory</i> • <u>Handout</u>: <i>Nomenclature & Basic Chemistry Calculations</i> • Video: <i>Safety in the laboratory</i> 	<ul style="list-style-type: none"> • <u>Handout</u>: <i>Precision and Accuracy</i> • <u>Quiz #1</u> – <i>Safety in the Chemistry Laboratory</i>
<u><i>Jan 16</i></u>	<u><i>Jan 18</i></u>
<p><i>Must Have: GOGGLES and APRON</i></p> <ul style="list-style-type: none"> • Locker Check-in. Clean Glassware • Laboratory Weighing • <i>Quiz #2 – Precision and Accuracy</i> 	<ul style="list-style-type: none"> • <i>Video: The Use of the Buret.</i> • Titration
<u><i>Jan 23</i></u>	<u><i>Jan 25</i></u>
Titration continued	Empirical Formula
<u><i>Jan 30</i></u>	<u><i>Feb 1</i></u>
Empirical Formula	Gas Packet
<u><i>Feb 6</i></u>	<u><i>Feb 8</i></u>
Ideal Gas Constant and Molar Volume of Hydrogen.	Ideal Gas Constant and Molar Volume of Hydrogen.
<u><i>Feb 13</i></u>	<u><i>Feb 15</i></u>
A: Standardization of a NaOH Solution	B: Titration of an Acid
<u><i>Feb 20</i></u>	<u><i>Feb 22</i></u>
Reactions of Copper	Finish Reactions of Copper
<u><i>Feb 27</i></u>	<u><i>Mar 1</i></u>
Dry Lab: Electrolytes and Net-ionic Equations	Electrical Conductivity
<u><i>March 6</i></u>	<u><i>March 8</i></u>
Crystal Structures	Finish Crystal Structures

<i>Tuesday</i>	<i>Thursday</i>
<u><i>March 13</i></u> <i>Spring Break</i>	<u><i>March 15</i></u> <i>Spring Break</i>
<u><i>March 20</i></u> Molar Mass by Freezing Point Depression	<u><i>March 22</i></u> Molar Mass by Freezing Point Depression
<u><i>March 27</i></u> pH and Its Measurement	<u><i>March 29</i></u> Finish pH and Its Measurement
<u><i>April 3</i></u> K _a of Acetic Acid	<u><i>April 5</i></u> Finish K _a of Acetic Acid
<u><i>April 10</i></u> Reactions of Salts with Water	<u><i>April 12</i></u> Finish Reactions of Salts with Water
<u><i>April 17</i></u> Buffers	<u><i>April 19</i></u> Buffers
<u><i>April 24</i></u> Titration of an Unknown Acid	<u><i>April 26</i></u> Finish Titration of Unknown Acid
<u><i>May 1</i></u> Determination of the Solubility Product Constant	<u><i>May 3</i></u> Continue Determination of the Solubility Product Constant
<u><i>May 8</i></u> Finish Determination of the Solubility Product Constant	<u><i>May 10</i></u> Quiz on Determination of the Solubility Product Constant (This quiz may not be dropped)
<u><i>May 15</i></u> Check with your lab instructor on the date and time for Checking-out and Paying Bill	<u><i>May 17</i></u> Check with your lab instructor on the date and time for Checking-out and Paying Bill