

CHEMISTRY 141 LABORATORY

SYLLABUS

Spring 2015

Dr. Dennison's Wednesday lab

- 1. Before coming to prelab.** Your carbon-copy notebook must be filled out and ready for use before coming to the prelab meeting. The report sheet in the lab manual is a good template to use in setting up your notebook pages.
- 2. Prelab meeting.** This will precede each experiment. It will begin promptly at the beginning of the lab period, in the classroom listed on the class schedule. It is important that you be on time for this. If you miss the prelab meeting (or a substantial portion of it), you will not be allowed to work in lab that week and will be given a zero for the experiment. You are not allowed to use cell phones in the prelab meeting. Should you bring one and it goes off, or should you use it in any way, you will leave and receive a zero for that experiment. Laptop computers are also not allowed.
- 3. Prelab assignment.** A pre-lab assignment is required each week. It should be a paragraph summarizing the experiment you will be performing in lab; it should start with the overall objective(s) of the experiment. The objective should be to do something, or to determine something; it should not be stated as to learn something, or to become familiar with something (you will learn, but in the course of doing). The pre-lab should not be a repetition of the procedure from the lab manual, but a summary of the experiment, in your own words. You should write it using passive voice (e.g., "the mass of a metal slug will be measured..."). Do not give directions (e.g., do not say "Prepare the solution."). Do not use any personal pronouns such as "I", "we", "you", or "one," or phrases such as "the student" or "the experimenter." You can mention the calculations you will be doing (e.g., "the density of water will be calculated..."), but don't describe how to do them. The pre-lab must be written in complete sentences, using proper spelling, grammar, and punctuation – your grade on the pre-lab assignment will be based on your writing as well as the content.

The prelab assignment must be word-processed and printed in black ink; at the top give your name, the number and title of the experiment, and the date. Normally it should not exceed one page, but if it does, staple the pages together. The prelab assignment is due at the beginning of the prelab meeting. If it is turned in after the prelab meeting begins, you will lose points. You will receive no credit for it if it is turned in after the prelab meeting is finished. If you turn in a pre-lab assignment for the wrong lab, you will receive no credit for it.

4. In lab. You must use a carbon-copy lab notebook, available in the bookstore. You will not be allowed to work in the lab without this notebook. During the lab, everything you measure and observe is to be recorded directly in your lab notebook, in ink. Never write things down on scraps of paper. Never record data directly in the lab manual; however, the way the report sheet is set up is a good model as to how to set up your notebook. Any changes or corrections must be made by drawing one line through the error and writing the correct item in beside it. Never try to correct an entry by writing over it in heavier strokes. Never use “white-out” to correct an entry. Where the lab manual report sheet calls for data, it should be copied neatly from the notebook. All calculations must be shown – neatly and legibly – on the report sheet. If you used an unknown, be sure to record its code in your notebook.

On some experiments you will work in pairs (or larger groups). The lab manual or your instructor will tell you when to work together. Do NOT work together on experiments unless the lab manual or your lab instructor tells you to; if you do, your report grade may be lowered.

In the lab room, all books, book bags, coats, etc., should be out of the way so nobody trips over them and nothing gets spilled on them – don’t leave them on the floor in an aisle or on the bench.

Work efficiently and make use of your time. You are expected to remain in the lab until your experiment is finished.

You are not allowed to use cell phones in lab. Should you bring one and it goes off, or should you use it in any way, you will leave and receive a zero for that experiment. Laptop computers are also not allowed.

At the end of lab each lab, make sure that you put all the equipment that was in the drawer or cupboard back in the drawer or cupboard, as another student will need it in the next lab. Do not leave items lying around the lab or on the drying racks. If you are missing an item of equipment you need for an experiment, get the needed item from where it is kept in the labs (or check the drying racks for items left there). Do not take equipment from another drawer or cupboard. Some equipment will be put out on the bench or a side bench – put these back where you got them, NOT in the drawer or cupboard.

Turn in the carbon copy of all your data and observations before you leave lab (or you may not get credit for that lab). Make sure your name is on each page and that all entries are legible.

5. Safety. The laboratory can be a safe place if you follow the safety rules. If you violate the safety rules, your lab evaluation may be lowered, and you may not be allowed to work in the lab. Your lab manual lists the laboratory safety rules; the two most important:

- You must wear a pair of safety glasses, even if you normally wear glasses. The chemistry department sells several styles; you may use your own, subject to approval of your lab instructor. The chemistry department does not loan glasses. While in the laboratory, you must wear the safety glasses at all times; even if you have finished with the experiment, others may still be working. You will not be allowed to be in the lab without your safety glasses.
- You must wear closed-toe shoes in the lab. If you come to lab with open-toe shoes, you will have to leave lab and put on proper shoes before returning.

In your first lab meeting, you will see a safety video. The next week, you will take a safety quiz. The quiz will not be graded, but you will be expected to demonstrate knowledge of lab safety on it.

6. Postlab quiz. Each week you will take a postlab quiz, in the lab. The quiz will be short (5 minutes or less) and will be based on the experiment you did the previous week and the graded report that was just returned. It would be a good idea to look back over that graded report before taking the quiz. You must take it at the front of the room; you may not use any material while taking it. The average of all the postlab quiz grades will constitute an additional lab grade.

7. Lab reports. Each lab report consists of filling out a report sheet (and showing calculations). Whenever you work with an unknown, make sure that you record the unknown number or letter in your notebook and on your report sheet. Wherever a written answer is called for on the report, it needs to be in proper English. You may use pencil on your lab report, so you can simply erase any mistakes. If you do use ink, make any corrections on your report the same way you do in your notebook – draw one line through the error and write in the correct value beside it. If you need to correct a large part of your report, it may be best to draw a line through the erroneous portion and attach an additional sheet to your report with the correct data. Your lab report should be neat and legible. Do NOT use whiteout.

Since a lab report is a graded assignment, it is expected that you will complete it fairly independently – that is, you should only ask me questions if you do not understand what the lab report is asking for. Do not ask things like “Did I do this right?” or “Is this correct?” There’s no point in grading an assignment if you are told what you’ve done is correct or incorrect before you turn it in.

On some lab reports, you will be asked to identify possible sources of error in the experiment. For this, you need to be specific – terms like “human error” or “experimental error” are too vague and are not acceptable answers.

8. Lateness. Unless directed otherwise, your lab reports are due on Monday by 4:30. There is a bin outside the labs with my name on it. Please deposit reports there. Lab reports turned in late will lose 5 points per day late. Turning in a lab report after 4:30 on the due date counts as a day late. If you frequently turn in assignments late, the penalty will go up.

9. Grading. Each report is graded on a 100-point basis. You will receive up to 10 points for your prelab assignment; up to 20 points for performing the experiment and turning in the carbon copy and the lab report; and up to 75 points on the report itself (including data, calculations, results, and answers to questions). Late reports will receive a penalty of 5 points per day. All reports are due one week after the experiment is performed. Post-lab quizzes will be given during the lab period after lab reports have been returned.

Pre-lab Summaries	10%
Lab Reports	70%
Data sheets	20%
Attitude/Preparedness/Cleanliness *	5%
	100%

Post-lab Quizzes will count as one complete report.

*Are you prepared for the experiment? Is your notebook properly filled out for performing the experiment? Did you replace all glassware (cleaned) and equipment to the proper place and clean your lab bench?

10. Evaluation. You will be evaluated by your lab instructor on your performance and conduct in lab. This evaluation will count as an additional grade; it will be based on such items as being on time, being prepared, following the safety rules, working independently and efficiently, finishing on time, and leaving the lab clean.

11. Lab grade. Your lab grade will be the average of your report grades, your postlab quiz average, and your evaluation. See your course syllabus for how the lab grade is used in determining your course grade.

12. Honor Code. A lab report and a lab quiz must be your work and your work alone; you may not give or receive assistance. This means you may not discuss the lab report with any other student. Make sure you understand the provisions of the Honor Code as well as the information on the Honor Code pledge you sign. If you have any doubt as to how the Honor Code applies to any assignment, ask your lab instructor.

13. Blackboard. You are expected to read our class's Blackboard site regularly.

14. Missed lab. The laboratory is part of the scheduled class and should be treated as such. The only acceptable reasons for missing a lab are illness/emergency, a religious holiday, or a college-related activity (such as a field trip or a trip where you are representing the school). If you miss a lab for any other reason, you will receive a zero. If you do not follow the procedure below, you will receive a zero regardless of the reason:

- In the case of an illness or emergency, you must let me know the reason by the date and starting time of the lab. If the reason is acceptable, you may be allowed to make up the lab another day that week or if that is not possible, that lab will not be counted.
- If you know you are going to need to miss lab for a religious holiday or a college-related activity, you must talk to me at least a week before the lab. You may be allowed to make up the lab another day that week or if that is not possible, that lab will not be counted.

Note: the laboratory sections are all very full this semester. You probably will not be able to make up a missed lab.

Except for college-related activities, only one lab may be missed without a grade penalty. A second missed lab will result in an F in lab and therefore an F in the course, unless prior arrangements are made with me.

Some things are NEVER acceptable excuses for missing a lab, such as leaving early for break, a doctor's appointment (unless due to an emergency), meetings, something scheduled for another class, etc.

15. Final comments on lab grades.

(a) Coming to lab unprepared – without your lab manual, lab notebook, safety glasses, and closed-toe shoes – sends the message that you do not take lab seriously, especially if this happens more than once. This will affect your lab evaluation.

(b) You should be prepared to start to work as soon as you go into the laboratory. Your carbon copy notebook should already be prepared before coming to the prelab meeting. Additionally, if you frequently take longer than everybody else to finish the experiment, you should examine the way you are preparing for lab and how you are working in the lab, as this will affect your lab evaluation.

(c) Be sure you know which experiment you are doing in lab each week. The schedule doesn't go in numerical order of the experiment numbers. In addition, the schedule may be changed if necessary to keep the lecture and lab aligned. Changes in the schedule will be posted on the Blackboard class site.

16. Have FUN in lab!