

# CHEMISTRY 141 LABORATORY

## SYLLABUS

*Fall 2006*

The information contained on pages 1 – 9 of the Chemistry 141-142 Laboratory Manual, 17<sup>th</sup> edition, 2006-2007, should be considered part of the syllabus for Chemistry 141 lab.

### 1. Before the lab.

*Prelab lecture:* A prelab lecture will precede each experiment. This 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 lecture (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.

*Prelab assignment:* A prelab assignment is required each week. It must be word-processed, double-spaced, and printed in black ink on one side of a page; at the top give the number and title of the experiment and the date. For most experiments, the prelab assignment should fit on one page; if it is more than one page, staple the pages together. (Note: some prelab assignments, particularly on the qualitative analysis experiments, will be longer.) The prelab assignment should be a paragraph giving a brief summary of the experiment you will be performing in lab; it should start with the overall objective of the experiment. More specifically:

*Objective:* The objective should always 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 something).

*Content:* The prelab assignment should not be a repetition of the procedure from the lab manual, but a brief summary of the experimental procedure, in your own words. You should give some details, but not so much as to be repeating the lab manual. You should give the names and/or formulas of any substances you will be using, but do not give volumes or concentrations. You can mention the calculations you will be doing, but don't describe how to do them.

*Style:* The prelab assignment must be written in complete sentences, using proper spelling, grammar, and punctuation – your grade on the prelab assignment will be based on your writing as well as the content. The names of chemical elements and compounds are not capitalized, and neither are words like “chemistry”, unless they begin a sentence. Be sure to use “real” superscripts and subscripts where appropriate. You should use passive voice (“The solution is to be heated...” or “The solution will be heated...”). Do NOT use any personal pronouns such as “I”, “we”, “you”, or “one.” In addition, do not use expressions like “the student” or “the experimenter.”

*Miscellaneous:* The prelab assignment is due at the beginning of your lab time (2:00 or 2:30). (Turning it in after the prelab lecture begins defeats the purpose of a prelab assignment; if it is accepted by your instructor at all, you will lose points for it being late.) If you turn in a prelab assignment for the wrong lab, you will receive no credit for it.

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 LearnLink class conference (see # 13, below).

**2. Lab reports.** Lab reports must be turned in to your lab instructor and are due as follows:

Date you are scheduled for lab:	Report is due:
Monday	Wednesday, 4:30
Tuesday	Thursday, 4:30
Wednesday	Friday, 4:30
Thursday	Monday, 4:30
Friday	Monday, 4:30

For Experiment 4, the Thursday and Friday lab reports are due Wednesday, Oct. 11, at 4:30, as Monday (Oct. 9) of that week is part of fall break.

Unless directed otherwise by your lab instructor, your reports must be left in the appropriate drawer outside Pierce 218. (Slide it in through the hole in the front of the drawer.)

Your graded lab report will be returned at your next prelab meeting and discussed.

**3. Quizzes.** There will be quizzes for most of the experiments. You will take the quiz during the lab, at the front of the room. The quiz will be short (5 minutes or so) and will be based on the experiment you did the previous week and the graded report that was just returned to you. It would be a good idea to look back over that graded report before taking the quiz. The average of all the quiz grades will constitute an additional lab grade.

**4. Formal summaries.** You will write two formal summaries, for Experiments 2 and 6 (see the lab schedule). Your grade on a formal summary will be based on two components – content/organization and style. Content includes completeness and correctness of the information; organization includes placing the information in the correct places. Style includes correct scientific writing style as well as correct grammar and spelling. The formal summary will not be graded on data or results. (You will be graded on data and results for those experiments, but that will be part of the grade on your report sheet. Thus, you must still turn in the report sheets for these experiments.) A formal summary is strictly limited to ONE page. It must be double-spaced, with 12-point type size and at least 1-inch margins, and printed in black ink.

Make sure your name is on it. You will lose points for not following these directions and those in the lab manual (pages 4-6).

Your first summary will be returned with a grade and comments. You will revise it and turn it in, along with the original version; the revision will then be graded. For the second formal summary, you will turn in just one version of the paper to be graded instead of doing a revision.

Timetable for formal summaries:

Sept. 18 – 22 Exp. 2 performed; Formal Summary 1 to be written on this experiment.  
Sept. 25 – 29 Formal Summary 1 due at the beginning of your regular lab time.  
Oct. 16 – 20 Formal Summary 1 returned to you in the prelab meeting.  
Oct. 23 – 27 Revision of Formal Summary 1 due at the beginning of your regular lab time.  
Nov. 13 – 17 Exp. 6 performed; Formal Summary 2 to be written on this experiment.  
Nov. 14 – 18 Formal Summary 2 due Monday, Nov. 20, at 4:30.

Note that the formal summaries are due later than the report sheets are due – make a copy of any information on the report sheets that you may want to include in your formal summaries.

**5. Lateness.** Any material turned in late will lose 5 points per day late. This includes prelab assignments, lab reports, and formal summaries. Turning in a prelab assignment or a formal summary after the prelab lecture begins counts as a day late; turning in a lab report after 4:30 on the due date counts as a day late. Even if you have worked in another lab section one week, your report is normally still due at your regular due date and time, unless you make arrangements with your lab instructor. Students who turn in assignments late frequently may see the penalty escalate.

**6. 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 70 points on the report itself (including data, calculations, results, and answers to questions). If a report is turned in so late that the other reports on that experiment have been graded and returned, the maximum grade will be 30. If you turn in incomplete reports more than once, they may be given grades as low as 20.

**7. Evaluation.** Your lab instructor will evaluate you 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.

**8. Lab grade.** You will have 5 grades in lab beyond those for the lab reports on the experiments you performed: the first and revised versions of the first formal summary, the second formal summary, your quiz average, and your lab instructor's evaluation. Your lab grade will be the average of these grades. See your course syllabus for how the lab grade is used in determining your course grade.

**9. Reflective statement.** At the end of the semester, you will write a short statement reflecting on your experience with lab; details will be announced later. While you will not be graded on this, if you do not write this statement, your quiz grade average will be reduced to zero.

**10. Proper behavior in lab.** You are not allowed to use cell phones or pagers in lab or the prelab meeting. Should you bring one and it goes off, or should you use it to call someone, you will leave the lab and receive a zero for that experiment. In the lab itself, all books, book bags, coats, etc., should be left in the shelves at the back so nobody trips over them and nothing gets spilled on them.

**11. 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, or you may not be allowed to work in the lab. The two safety rules most strictly enforced:

- (1) You must wear your safety glasses at all times in the lab. If you do not bring them with you, you will have to leave lab and get your glasses.
- (2) 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 film. The next week, you will take a safety quiz. The quiz will not be graded, but you will need to demonstrate knowledge of lab safety on it.

**12. Missed lab.** If you cannot work in your regular lab during a particular week:

- (a) In the case of an illness or emergency, you must notify your lab instructor by the date and time of the lab and give the reason for your absence. If you do not do so, you will receive a zero for the missed experiment. You must make up the lab another day the same week if at all possible. If not, you may perform a make-up experiment the last week of lab. If the reason is not acceptable, you will receive a zero for that experiment. In general, illness or an emergency are the only acceptable excuses for missing a lab. The lab instructor makes the determination as to whether an excuse is acceptable.
- (b) If you need to miss lab for college-related reasons (such as a field trip or a trip where you are representing the school), you must talk to your lab instructor at least a week before the lab; you must make up the lab another day the same week. (The make-up lab at the end of the semester is for emergencies only.) If space is not available, you must work on your regular lab day.

Note: The due date and time for all assignments remain the same as if you worked in your regular lab section unless you make arrangements with your lab instructor.

Note: Normally you are allowed to make up only one missed lab, regardless of the reason. Missed labs beyond the first will normally result in grades of zero.

Leaving early for vacation, a doctor's appointment (unless due to an emergency), meetings, etc. are NEVER acceptable excuses for missing a lab; neither is something scheduled for another class. In general, you must arrange your schedule around your lab time, not the other way around.

**13. LearnLink.** You are expected to read the “141 labs” (under Oxford Chemistry) LearnLink conference regularly.

**14. Honor Code.** You are responsible for knowing how the Oxford College Honor Code applies to Chemistry 141 lab. Make sure you understand the provisions of the Honor Code as well as the information regarding the Honor Code on the pledge you sign. If you have any doubt as to how the Honor Code applies to any assignment, ask your instructor.

*Lab reports.* Collaboration on any portion of the lab report – a prelab assignment, a report sheet, a formal summary – is an Honor Code violation. Even if you worked with a partner in lab, you must do your entire report by yourself. If you need help, ask an Oxford College chemistry faculty member or a chemistry tutor.

It is a violation of the Honor Code to copy or use in any way any portion of another student's lab report – this includes any prelab assignment, report sheet, and formal summary. This applies to graphs, tables, references, and equations. This applies to reports from previous years as well as those of students currently taking the class, whether in your lab section or a different one. It is also a violation to incorporate any material from an on-line source without the specific approval in advance of your lab instructor. It is permissible, if you're working with a partner in lab, to share the data you collected, but this must be done before any work on the report begins, and the data must be copied from your partner's lab notebook, not shared in a table or other formatted form.

In summary, all parts of a lab report must be your work and your work alone.

*Quizzes.* When you are taking a quiz in lab, it is a violation of the Honor Code to:

- (1) use any materials not specifically authorized;
- (2) give or receive assistance while taking the quiz;
- (3) give or receive information about the quiz from another student, whether in your lab section or a different one.

*Missed lab.* Since it may affect your grade, giving a false reason for missing a lab is an Honor Code violation.