HOW TO PREPARE FOR AN EXPERIMENT

It is important to arrive at the laboratory well-prepared for the experiment of the day. As you will soon discover, reading an experimental write-up before performing the experiment is very different from reading a novel. You should expect to read the experiment at least three times: the first time to obtain the general idea of what the experiment is supposed to accomplish, the second time to obtain a general idea of the sequence of steps that you will be performing, and a third time, paying attention to precautionary details that are usually highlighted in bold, in italics, or underlined. In the second reading, you may find it useful to make a few sketches to help yourself understand the steps and setups in the procedure. In the third reading, you may wish to use a highlighter to further draw your attention to special instructions.

Just before you begin the actual execution of the procedure, you should reread the procedure, one paragraph at a time. You would not want to make the mistake of following the directions by reading one sentence at a time because the precautions may be at the end of the paragraph. Also, you should not rely solely on your memory of what your instructor had just demonstrated in the pre-lab discussion. Usually, your instructor is only showing portions of the procedure to demonstrate a specific technique. You must refer to the lab manual for the specific quantities and the exact sequence of steps in the procedure.

The Pre-Lab Exercise: For every experiment there will be some sort of Pre-Exercise to help you prepare for the experiment of the day. You will be asked to either submit the answers to these questions and/or take a quiz at the beginning of the lab period to show that you are properly prepared. These exercises or quizzes are worth about 10% of the course grade. There will be no make-up and late papers will not be accepted, so do not arrive late.

To prepare, study the entire experiment and pay particular attention to the concepts and definitions presented in the Introduction section, and to the safety precautions for the experiment. You are not expected to memorize details such as the size of a beaker and exact amount of a reactant but should know the general method used in the experiment.

The Preparation of the Lab Notebook: A specific type of lab notebook with carbonless duplicate pages is to be used. Your lab note book must be prepared before you arrive at the lab. More details on this preparation are provided in the next chapter. Your notebook will be checked at the beginning of each lab period and 5% will be deducted from the experiment grade if it is not properly prepared.

The Pre-Lab Discussion: There will be a pre-lab discussion the first 30 to 60 minutes of each lab period. It is crucial that you arrive on time. If you arrive more than 15 minutes late and miss a significant portion of this discussion you will not be allowed to do the experiment because of safety concerns and you will receive a zero for the experiment. In addition, the lab assignment for the previous week would be counted as late and incur a 10% late penalty.

During the pre-lab discussion your instructor will go over the pre-lab exercise and/or quiz, the finer points of the procedure, the safety precautions and some of the calculations of the
experiment. Laboratory techniques will be demonstrated and the assignment will be
specified.

The Lab Practical Final Exam: A Lab Practical Final Exam (worth about 15-20 %
of the course grade) will be given at the end of the semester (see lab schedule provided).
You need to prepare for this exam throughout the semester, rather than wait until the week
before. Your letter grade will be significantly affected if you perform poorly in the final
examination.

Students often have a false sense of security as to how well they are doing in this course.
You may be getting good grades in your lab assignments because of the many sources of
help available to you during the semester. We lead you through most of the calculations in
the pre-lab discussion, help you with the calculations during the lab, and you have lab
partners, tutors and friends to help you complete the assignment. All this is fine, and we
expect you to get help whenever necessary to understand the material, but at the Final Exam,
you will be on your own. It will be a closed-book exam. By the end of the semester, we
expect you to have learned the material, and not to rely on notes, textbooks and the help of
your instructor or lab partner.

Towards this end, you should go over the entire lab assignment for each experiment once it
has been graded and returned to you. Get help from your instructor if there is anything you
don’t understand. This includes understanding the concepts, the calculations and laboratory
techniques involved in each experiment. For your convenience a review chapter has been
provided at the back of the lab manual.

IMPORTANT ADVICE: A common mistake is for students to wait until the day
before the lab (or even just a couple of hours before the lab period) to complete the lab
report that is due. Their time becomes totally occupied with the experiment of the
PREVIOUS week rather than getting ready for the experiment of the CURRENT week.
Do not underestimate the importance of being prepared for the experiment of the week. You
might be able to get by with a fairly good grade during the semester by getting help from
fellow students and your instructor, but if you don’t really understand what you are doing
you will be hit hard at the Lab Final. It is not uncommon for students to get a very poor
grade on the Lab Final and end up with a lower grade for the course than they expected.