

1. Course Policies

The following sections contain a summary of some important policies and procedures followed in the Organic Chemistry Laboratories at Xavier University. More information can be found in the official syllabus that your instructor will distribute.

Prerequisites

For the first semester of lab (CHEM 2230L), you must already have completed and passed all of your General Chemistry courses, including both semesters of lecture and laboratory. You must also currently be taking or already have passed the first semester of Organic Chemistry lecture and drill. If you are not currently taking or have passed the first semester of Organic Chemistry lecture and drill, drop this course immediately.

For the second semester of lab (CHEM 2240L), you must already have successfully completed the first semester of Organic Chemistry lecture and drill, CHEM 2210/2210D. In addition, you must currently be taking or already have passed the second semester of Organic Chemistry lecture and drill, CHEM 2220/2220D. Perhaps most importantly, you may not take the second semester of the laboratory unless you have already taken and passed the first semester. In the second semester, you must be familiar with equipment and methods from the first semester. This is why we require all students to take the first semester lab before the second.

Required Texts and Other Materials

You are required to have the following before the first experiment.

1. This laboratory manual: Crago, Kathleen, *et al.*, ***Organic Chemistry Laboratory Manual***, 6th edition, Wiley, New York, 2005. Earlier editions are not acceptable.
2. The laboratory text: Williamson, Kenneth L., ***Macroscale and Microscale Organic Experiments***, 4th edition, Houghton Mifflin Company, Boston, 2003. You may use an earlier edition, but you should be aware that there are slight differences between the editions. You will be responsible for any material that is in the fourth edition but not in the earlier ones. Page references given in the main body of this manual are to the 4th edition. An appendix at the end of this manual contains references to earlier editions.
3. The laboratory notebook, which is incorporated with this manual.
4. Safety goggles. These must fit snugly to your face and not have holes that could allow chemicals to reach your eyes. Safety glasses are not acceptable; goggles are required.
5. A lab coat.

The manual/notebook and the textbook are available in the University Bookstore. The goggles and lab coat may be purchased in the Chemistry Department Stockroom.

Course Objectives

You will learn to work safely, efficiently, and effectively in an organic chemistry laboratory. You will also learn how to record and present your work and its results in writing, and to assess your results critically. Working safely is the first priority; the other objectives are of approximately equal importance. You will be graded according to how well you meet these objectives. If you just “do the lab and get out,” you will be accomplishing only a small fraction of these objectives and will receive a correspondingly low grade.

Attendance

Students are expected to attend all class sessions. It is very difficult to find time and space to make up missed experiments in a different section; many sections have no space for additional students. You must have prior permission from both your instructor and the instructor in whose laboratory you wish to make up the experiment.

You must make up the experiment in a section that is still doing that experiment. At your instructor's discretion, a missed experiment may be prorated; prorating two experiments is very rare and requires documentation. No more than two experiments may be missed (even if prorated). Students who miss more than two experiments will receive a grade of F.

Laboratories begin at the times published in the University class schedule. The instructor has no responsibility to allow tardy students to make up any missed material. Most of our labs begin with a ten point quiz. If you miss it, you get zero points for that quiz. Habitual latecomers will find that these point losses add up quickly. If you cannot complete the experiment because you came in late and did not have enough time, your grade will reflect this too. If you did not perform the experiment properly because you were not there on time to hear special instructions, you will suffer the consequences.

Evaluation (Grading)

For each experiment, you will take a quiz, keep a record of your work in your laboratory notebook, and write a laboratory report; each of these items will be graded. There will also be a final exam. Finally, there will be a laboratory performance grade. Your overall grade in the organic chemistry laboratory course will be based on these. You will find descriptions of these items below. The point totals and other details are found in the syllabus.

The **quiz** is given at the beginning of the laboratory session. Part of the quiz will be on the readings assigned at the beginning of each experiment to prepare for that experiment. This part is a test of your preparation for the day's experiment. The rest of the quiz will be on the previous experiment. It may include anything that you should have learned in that experiment, whether from assigned readings, your instructor's pre-experiment lecture, or from doing the experiment. Use the objectives, the related notes posted on the Chemistry Department web site, your text, and this lab manual for each experiment to help you prepare for the quiz. Since both parts of the quiz are based on material that you should know before coming to class, ***your instructor will not take class time to answer questions before the quiz.*** If you have questions about the material, see your instructor during the week before the lab.

The **laboratory notebook** is the primary record of your work. All data, observations, results, and so forth from each experiment should be recorded in the notebook as the experiment occurs. You will also write a separate formal **laboratory report** for each experiment. This report must be based on the data and observations recorded in the laboratory notebook. More details are in the separate chapters on laboratory notebooks and laboratory reports later in this manual.

The **final exam** consists primarily of multiple choice questions. It covers laboratory safety and all of the experiments done during the semester. The final exam, like all lab finals, is normally given during the last week of classes and not during final exam week.

The laboratory performance grade is your instructor's evaluation of the elements of your laboratory performance that are not covered by previous items. These elements include, but are not limited to, technique, safety practices, and punctuality; your instructor will provide more details. Maintaining a clean working environment is both good technique and proper safety practice. You are responsible for your own work area, for any communal cleanup duties assigned to you, and for cleaning up any messes that you make no matter where they occur.