Laboratory Notebook
Guidelines

Why keep a good laboratory notebook?

Keeping an accurate record of your work is an integral component of research activities in the medical and science disciplines. In industry or academic research, the laboratory notebook becomes a legal document, which serves to protect intellectual property. Your laboratory notebook is a permanent record of the work that you have completed in the laboratory. It also serves as documentation that you or your colleague may come back to at a later date to determine how to perform an experiment or solve a problem that arose later in the investigation. Therefore, recording all details of what you did in the lab, including mistakes made or problems encountered, is vital.

Rules Regarding the Laboratory Notebook

1. The laboratory notebook should be a permanently bound book (think composition notebook)
2. All entries made in the notebook should be made in pen. If a mistake is made when entering something, simply place a single line through the entry. ~~Like this.~~ Errors or incorrect numbers should never be erased or covered up, no "white-out". No printouts or photocopies are allowed.
3. All pages should be numbered in the top right corner at the beginning of the semester.
4. All entries should be made on the right-side pages. The left-side pages are reserved for side notes or calculations related to your entry.
5. All entries should be handwritten. Data typed entries are not acceptable in this course.
6. Be sure to record all data at the time it is obtained. Never rely on your memory to fill in the details; chances are you will have forgotten some, or all, of the information when you need it. Data should never be taken on scratch paper or paper towels. The notebook should include things such as: initial and final readings, tabulated data and calculations in a clear and legible manner. Units should be included with every number.
7. Provide as much detail in your notebook as possible. It is not uncommon for a seemingly trivial observation to become important later in the experiment.
8. Your instructor should sign your lab notebook at the end of each lab session to acknowledge that you have performed the work recorded.
9. Each lab experiment should be entered into your notebook **before** you arrive to class. ***Your laboratory notebook is your ticket into the lab.*** If your lab notebook is incomplete, you will not be allowed to complete the lab and a zero will be given for that experiment.
10. Your lab notebook may be used on each quiz. So, the better record you keep, the more useful this resource will be to you.

Organization of your Laboratory Notebook

Inside the front cover – Attach a copy of the periodic table provided to you.

Page 1 – Title of the course, semester enrolled, student name, instructor name, emergency contact information

Page 2-3 – Table of Contents – Create and fill in a table like the one shown below.

Date	Experiment Title	Pages

Page 4 to end – Each week you will make an entry into your lab notebook. The entry will vary depending on if it is a lab experiment week or a recitation. The details of each entry are provided below.

Lab Experiment Entry

I. Title

II. Purpose Statement – Here you will briefly describe the underlying purpose for performing the lab. It should consist of two or three sentences stating the reason for performing the experiment (i.e., What are you trying to accomplish?) and briefly mention any concepts, equations, or theories utilized. Do NOT copy the provided learning objectives verbatim.

III. Chemical List – Here you will make a complete list of all the chemicals used. Write both the full name and chemical formula. Next you will need to look up the Safety Data Sheet (SDS) for each chemical. Begin by reviewing the SDS for the National Fire Protection Association (NFPA) hazard identification. This may be shown as a list or as the safety diamond shown below. Please see "Understanding Common Laboratory Safety Signs" on LabFlow for a resource on how to interpret a safety diamond. For each chemical draw the safety diamond. If a quadrant of the diamond contains a number equal to or greater than 2, review the SDS section titled Hazard Identification and provide a list of the known hazards.

Example:

Hydrochloric Acid (HCl) 

This will cause serious eye damage and skin corrosion.

IV. Outline the procedure – Review the laboratory procedure and record an outline of what will be completed in the laboratory. The outline should include enough detail so that you can finish the lab with only your notebook as a guide. Sketching glassware and/or procedures used may complement your outline. DO NOT COPY THE PROCEDURE VERBATIM.

V. Experimental Data, Observations, and Results – To prepare this section before lab, you should include a list of all data that will be collected or any data tables. It will be helpful to review the accompanying final lab submission document for this information. During lab, you will record all data that is collected as part of the experiment. Data will be transferred to the Final Lab Submission form once it has been determined that it is useable and that all calculations are correct. Lab is largely based on collecting

measurements. Therefore, it is important that all measurements are recorded with the correct number of significant figures and units.

VI. Answers to Questions – Experimental procedures may contain questions embedded within the procedure to help you develop an understanding of what is being observed. Record all questions prior to coming to lab so you can write the answers in your notebook during the experiment. Careful attention to this section may help you answer questions on your lab quizzes.

VII. Conclusion – In 2-3 sentences after the experiment, write in your own words the overall conclusion of the lab. This should contain a summary of results with key numerical values for quantitative experiments and a brief explanation of the meaning of the results.