

Principles of Chemistry 125 Laboratory

Hamilton College, Fall 2014
Tuesday and Wednesday 1-4PM, TSC 1080

Tuesday Lab

Mr. Greg Rahn
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Office Hours: M-F 10am-12pm

Wednesday Lab

Professor Adam W. Van Wynsberghe
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Skype or Google chat: avanwys
Office Hours: MT 3-4pm; WR 4-5pm

Required Materials

You should bring the following items to your laboratory section every week: a bound lab notebook with carbonless duplicate pages, a blue or black pen (*no pencils!*), and a calculator. A lab coat and safety glasses are provided and must be worn at all times.

Attendance

Attendance in laboratory is required for every experiment during your assigned time. The Dean of Students must approve all absences from lab, even because of illness. If you suddenly become ill before lab, call or email your instructor and go to the Health Center. Contact us as soon as possible to schedule makeup labs. Unexcused absences will result in a grade of zero. ***You must receive a passing grade in the laboratory section to pass Chemistry 125!***

Laboratory Safety

Appropriate clothing including safety glasses, lab coats, closed-toe shoes, and long pants must be worn at all times. Failure to comply will result in dismissal from the lab. No drink bottles, food, or gum is permitted. If you have a condition that might result in a seizure, loss of consciousness, or other situation that might endanger your safety or the safety of others in the laboratory, please inform your instructor as soon as possible.

Students with Disabilities

Hamilton College will make reasonable accommodations for students with properly documented disabilities. If you are eligible to receive an accommodation(s) and would like to make a formal request for this course, please discuss it with your instructor during the first two weeks of class. You will need to provide Allen Harrison, Associate Dean of Students (Elihu Root House; ext. 4021), with appropriate documentation of your disability.

Pre-lab Preparation

For each laboratory you should read the materials posted on the Blackboard site and understand the goals and procedures that will be carried out for that week's experiment. You should also properly prepare your lab notebook (see below). The key to working efficiently and effectively in lab is to know what you are doing and have a plan when you arrive. This is only possible if you have read and thought carefully about the experiments *beforehand*. Arriving well-prepared for lab translates to finishing and leaving lab early.

Lab Notebook

It is important to keep a neat and well-organized lab notebook. The lab notebook serves as a record of what you have done. In essence, it is your laboratory diary. For the notebook, function is much more important than formatting; however, a notebook that contains all the necessary information but is impossible to read or follow is useless. At the end of every lab period you will hand in the original pages of your notebook while you keep the copies. All notebook entries should be made in pen and the first pages should include a Table of Contents for easy reference to your experiments. Before you come to lab you should complete the first three sections (Title and Date, Objective/Introduction, and Experimental Plan) in your lab notebook:

Prior to Lab:

Title and Date of Experiment

Introduction:

This consists of a short paragraph that clearly states the chemical goal and techniques you will use to achieve that goal.

Experimental Plan:

You should clearly describe *in detail* the procedures you will be using to perform your experiment. Necessary details include solution concentrations, pH, ionic strengths, temperatures, and instrument settings. Be succinct but include all useful *chemical* information; a competent chemist should be able to reproduce your experiment using your Experimental Plan. You may write in either sentence/paragraph form or use a bullet-list, but a step-by-step list tends to be more easily readable and useful while in lab.

During Lab:

Data and Observations:

Record all raw data in an easily-read format (tables!). Record any observations and interesting experimental notes that you make during the experiment. These are important for reflection if troubleshooting of any experiment is necessary. Also include any alterations of the procedure as you actually perform it. The Experimental Plan section you prepare before lab helps you organize your work, but you also need to re-

cord what you actually do. Plans always (and should) evolve as you perform an experiment; keep track of that here.

Conclusions:

Provide a conclusion that summarizes the outcome of the experiment, any important alterations you made in the methods, and any difficulties you encountered.

Honor Code

All Hamilton College policies regarding ethics and honorable behavior apply to this course. Academic dishonesty, including any form of cheating, is regarded as a very serious offense and may result in a failing grade in the course. Both your lab notebook and lab reports must be in compliance with the honor code. Directly **copying** from either a handout or the lab manual is considered academic dishonesty. Presenting data that you did not personally collect without citing its source is academic dishonesty. Please review the Code of Student Conduct if necessary: <http://www.hamilton.edu/student-handbook/studentconduct/honor-code>.

Laboratory Schedule

Week of	Laboratory Exercise	Assignment (Points)
Sept. 1st	Polymers	Notebook (10)
Sept. 8th	Nailing Statistics	Notebook (10)
Sept. 15th	Determination of Iron in supplements	Notebook (10)
Sept. 22nd	Isolation of caffeine from tea	Notebook (10)
Sept. 29th	Cocaine Detection on Dollar Bills	Notebook (10)
Oct. 6th	Macromolecular Docking	Notebook (10)
Oct. 13th	Project Workshop	Draft Proposal Due (10)
Oct. 20th	Independent Projects	Full Proposal Due (20)
Oct. 27th	Independent Projects	
Nov. 3rd	Independent Projects	Notebook (15)
Nov. 10th	Independent Projects	Oral Progress Report (10)
Nov. 17th	Independent Projects	
Nov. 24th	Thanksgiving Break—No Labs	
Dec. 1st	Poster Workshop	Notebook (15)
Dec. 8th	Poster presentations	Full Report Due (40); Poster (20)