

Instructor: Dr. Brian Gilbert
Office: Murdock 118
Office Hours: Drop-in or by appointment
Email: bgilber@linfield.edu
Telephone: (503)883-2469
Chemistry Department Website: <http://www.linfield.edu/chem>

Required Materials

Lab notebook, goggles, handouts available from the course website.

Disability Statement

Students with documented disabilities who may need accommodations, who have any emergency medical information the instructor should know of, or who need special arrangements in the event of evacuation, should make an appointment with the instructor as early as possible, no later than the first week of the term.

Academic Dishonesty

Read the section in the catalog on "Academic Dishonesty". I will assume that work you present is your own, unless it is clearly designated otherwise. Students who engage in cheating, plagiarism, fabricating or falsifying information, or facilitating academic dishonesty will be subject to disciplinary action.

Course Description

This laboratory course is intended to familiarize the student the measurement of kinetic data, and the principles of spectroscopy. In addition, it is hoped that the student will master the operation of modern spectroscopic instrumentation and mathematical error analysis. Because this course emphasizes the laboratory experience above all else, the maintenance of a good laboratory notebook is essential.

Attendance and Laboratory Times

CHEM 371 will meet weekly on Mondays beginning at 2:10 pm in Murdock 113 (the Fishbowl). These meetings will be used to discuss the experiment that will be done each week, data analysis for the previous week's experiment, and will be your opportunity to ask questions about the experiments. Because of the limited amount of equipment available, you will work with a partner throughout the semester and will be asked to sign up for lab times throughout the week. If you are prepared and plan well, you should be able to complete most of the *experimental* work within three hours. It is therefore extremely important that you are fully prepared on the days you are doing experiments.

Attendance is mandatory, and there will be no make-up labs. If you have a valid excuse (one that meets the guidelines in the Linfield catalog) for missing a lab you must make arrangements in advance with the instructor.

A schedule of labs and due dates is listed on the course calendar, which is accessible from the course webpage. Lab handouts will be posted at least one week prior to the start of a lab.

Course Components and Grading

Grades will be based on the points received for the components listed below.

Component	Weight (%)	Letter Grade	% of Total
Clean up/lab maintenance	16	A	> 90
Exercise Assignment	10	B	80 - 89
Notebook (Pre-lab)	10	C	70 - 79
Lab reports (8 total)	64	D	60 - 69
		F	< 60

Submission of Laboratory Reports

All laboratory reports must be double spaced, typed and submitted by email as PDFs. For this purpose, Adobe AcrobatTM will be available on the triad of machines in the special projects laboratory. Supplemental material such as spreadsheets and *Mathematica* notebooks may be submitted as is electronically. You are expected to submit your report supporting files to your instructor by 4:00 PM at the end of the due date. No other form of submission is acceptable. Late lab reports will be 5% per day, and will not be accepted after one week.

Lab Reports and Lab Notebook

Each student is required to keep a permanently bound laboratory notebook. The notebook should have consecutively numbered pages, with the first several left empty for an index of experiments. All data should be entered in pen at the time the experiment is performed. It is normal to make mistakes or correct entries. When this happens, draw a single line through the entry in question. Prior to lab you should write out the purpose of the lab, and outline the procedure to be used, including instructions for using instrumentation and other equipment. **You should not have to refer to lab handouts during lab.**

You should keep copies of all instrumental parameters used, changes in procedure, solutions prepared (and by whom), your lab partner's name, dates of experiments and useful print outs (such as spectra) in your notebook. Your instructor will regularly come through lab and throw out any information you have that is not kept in the notebook.

Lab reports should follow the format outlined in *Experiments in Physical Chemistry* (Garland, Nibler and Shoemaker). Copies of the 7th edition are available in the special projects lab. Briefly, all lab reports must contain:

1. Title page and abstract
2. Introduction
3. Experimental
4. Results
5. Discussion
6. Error analysis
7. References

Note that the example lab report in Garland includes the error analysis in the appendix.