

Spring 1999

Chemistry 41 Laboratory

Prof. M. Ciszowska

Procedures: Combination of handouts and selected procedures in text; Skoog, West, Holler, "Fundamentals of Analytical Chemistry".

Required Items: Two locks, lab coat, **safety-glasses**, bound notebook, paper towels, sponge.

Lab Schedule Overview:

	Experiment	Report Due (Points)¹
Feb. 3, 10, 17		
	Check-in; Weighing & Calibration	Feb. 17 (100) ²
	Precipitation Titrations: Determination of Chloride by the Mohr Method	Mar. 3 (100)

Feb. 24, Mar. 3, 10, 17, 24. The two experiments below and the computer assignment will be completed over a period of five weeks. Students in odd-numbered lockers will do the potentiometric titration first, followed by the redox titration. Students in even-numbered lockers will do the redox experiment first. A major report on the potentiometry experiment is required.

	Potentiometric Titrations: Determination of Na ₂ CO ₃ Computer Analysis of Data	Apr. 14 (200)
	Redox Titrations: Determination of Iron in an Ore	Apr. 14 (100)

Apr. 14, 21, 28, May 5, 12. The five experiments listed below will be completed during the second half of the semester. The EDTA experiment is done individually; the others are done with a partner. A schedule will be distributed in advance. The report on each experiment is due two weeks after completion. Joint reports are to be submitted for experiments that are done with a partner.

	Complex-Formation Titrations: Determination of Zn Using EDTA	(100)
	Spectrophotometry	(100)
	Flame Photometry	(100)
	Electrochemistry	(100)
	Gas Chromatography	(100)
May 19		
	Check-out - Submit lab notebook for grading.	(100) ²

¹ A 10 pt. penalty is imposed for each week a report is late.

² This grade includes the weighing and calibration experiment, the proper use of a notebook, and an overall evaluation of your laboratory work.

Safety-glasses must be worn at all times in the laboratory. Read and follow "Safety in the Laboratory", Section 35K, p. 810, in your text.

You must keep a laboratory notebook. Follow the procedures in Section 35J, p 808, in your text. Plan for efficient use of your laboratory time. Advance planning is important. Many experiments require oven-dried samples, a time-consuming task. Try to do this the week before. Use free time to do your computer work. Several experiments require you to use a computer for data analysis. An introduction to the use of the Excel spreadsheet program using the computers located in our Resource Room will be provided. You can use other spreadsheet programs and/or computers that you may have experience with or access to.