

Course Objectives:

Chemistry 4000/6000 is one of the WAC (Writing across the Curriculum) and CTW (Critical Thinking through Writing) courses offered in the department of chemistry. The primary goal of the lab course is to learn how to obtain accurate and precise experimental data, applying critical thinking skills and write a formal scientific paper to present the findings following the American Chemical Society journal writing style.

Instructor: Dr. Chu-Ngi Ho (Tuesday 9.00 -12. 15 pm; 5.30 – 8:45 pm)

Office: 234 Kell **Email:** cho@gsu.edu, **Tel.:** 404-413-5889

Office Hour: Wednesday: 12:10 pm – 1:10 pm or by appointment.

Text: Laboratory Manual for Chem. 4000/6000 (distributed at the first lab meeting)

Last Day to Withdraw: October 15, 2014

Required Laboratory Materials:

- 1) A stitched and bound notebook; *no spiral notebooks, no tear-out pages*
- 2) Safety goggles or glasses. You may purchase from the lab coordinator,

Attendance:

Students are expected to attend each pre-lab lecture and lab session. Arrive on time please.

Lab Experiment Experiments:

- Project 1: Absorption measurement, error and statistical analysis
- Project 2: Acid-base titration: standardization of prepared HCl and NaOH solution;
Determination of the acid mixture composition of HCl + HAC;
- Project 3: Titration of phosphoric acid with and without Mg^{2+} ; the effect of its presence on acid titration (multiple-equilibria system);
- Project 4: EDTA standardization; metal-EDTA complex titration; determination of the metal ion mixture composition.

Grading/Requirements:

Each paper is **15%** of the final **course** score. The total lab score is **60%** of the final course score, The lab score includes the written paper, and the accuracy and quality of the lab notebook.

- Four reports will be written using real data obtained from experiments in the lab.
- The reports will be returned with comments. Students will be allowed to re-write, revise and re-submit the reports within one week from the date of reports' returned, together with the corrected original papers.
- Indicator scores will be given for each submission to give the students a sense of how well each report has been written up to that point

REVISION AND RESUBMISSION OF REPORTS

You are allowed to resubmit Report 1 two times and the third submission is the final submission. Report 2, 3, and 4 will have only 1 resubmission and the 2nd submission is the final submission.

The reports must be handed in hard copies, at the beginning of the lab on the due dates. The penalty is 5 points off for **EACH DAY** of being late. The late penalty of first submission is carried over to the final submission. This means that if you are one day late for the first submission, 5 points penalty will be assessed. If the first resubmission is again one day late, the penalty is 5 points. If the next submission is on time, the total penalty is 10 points. Thus 10 points will be taken off the final score of that specific report. Thus the consequence of late submission is cumulative.

Please note that for reports 1 and 2, the due date for resubmission is exactly one week after the report is given back.

ABSOLUTELY NO EXCEPTION!

These are the due dates for **first** submission for Tuesday labs

September 23, Report 1;

October 14, Report 2;

November 04, Report 3;
(second submission, 12/2)

November 17, Report 4
(second submission 12/9)

For both report 3 and report 4, the final submission is to be handed on the specified dates above to Kell 234 by 5 pm of the day.

THE ORIGINAL PAPER WITH THE CORRECTIONS MUST BE SUBMITTED ALONG WITH THE REVISED VERSIONS. ALL OF THESE SUBMITTED REPORTS WILL NOT BE GIVEN BACK TO THE STUDENTS AFTER THE FINAL SUBMISSION.

Independent work required:

Students are required to write each paper independently, analyzing their own experimental data and discussing the results accordingly. (No group work. No sharing of data. You are responsible for the data acquisition independently.) If this takes place, it will be considered **CHEATING/PLAGIARISM** and this paper will be assigned a grade of **ZERO**.

ONE IS NOT PERMITTED TO USE ANOTHER PERSON'S DATA/DISCUSSION IN THE PAPER WITHOUT MENTION/REFERENCE WHEN ALLOWED TO WORK IN PAIRS.

Safety Requirement:

- **Safety glass or goggles** *must be worn at all times* inside the lab.
- **Dress appropriately:** no open-toe shoes (flip-flops, sandals, crocks, etc.); no very short shorts/skirts.
- **No food, drink, gum,** etc. in the lab.

Preparedness for Lab Work:

Students should come to lab prepared to conduct the experiments. They should understand at least, the main chemistry principle their analysis is based on. They should not do "cook book" following the recipe type experimental work. So for this lab, the hands-out will **NOT** be allowed on the lab bench for doing the experiment. The lab manual and your lab note book are permitted. Suggestion:

Read the hands-out or lab manual given, summarize the procedures for the the experiment, and type the procedures into a word file. Print out the word file and use that print out in the lab. Save that file and you essentially have completed the experimental part of the report. (WOW!)

Or, you can write the procedures into your lab note book.

Chemistry Department Student Integrity Policy:

The Department of Chemistry follows the university policy on academic honesty published in the "Faculty Affairs Handbook" and the "[On Campus: The Undergraduate Co-Curricular Affairs Handbook](#)." All tests and quizzes taken and reports submitted must represent the student's individual unaided effort. To receive or offer information during an examination will be considered cheating. Any suspected offenses may be referred to the Department Chair for appropriate action. Classes will never be canceled unless an official from the Chemistry Department gives the class personal notification. Don't assume a note to be enough without checking with the Department office (404-413-5500, 540 General Classroom Building).

The University requires that faculty members must, on a date after the mid-point of the course (Thursday, October 15, 2009) to be set by the Provost (or his designee):

1. Give a WF to all those students who are on their rolls but no longer taking the class
 2. Report the last day the student attended or turned in an assignment.
- Students who are withdrawn may petition the Department Chair into their classes.