

PHYSICAL SCIENCE 14 LAB

Ticket Number 6522

8:10 – 10:15 P.M. Tuesday

12:30 – 2:30 P.M. Saturday

Room: Instr-2012

Instructor:..... Professor Charles Mallory

Email: charles.mallory@ieee.org

Web Address: <http://home.ca.rr.com/profmallory/>

This location will contain laboratory experiments, handouts and study guides.

Office Hours: 6:30 – 7:00 PM Thursday

And by arrangement

Required Materials:

- Scientific Calculator (**YOU WILL NEED THIS!!!**)
- Laboratory Notebook
- Laboratory Manual for Physical Science 3rd Edition, Said Pazirandeh (Available for download on the web)

Grading:

- Your final grade is based upon the following breakdown:

Laboratory Reports	55%
Laboratory Notebook	20%
First Laboratory Exam	5%
Second Laboratory Exam	15%
Attendance	5%

Laboratory Reports:

- Laboratory reports are due one week after the completion date of the experiment. Late reports will be subject to a 25% per class meeting late penalty.

Laboratory Exams:

- Two exams will be given on the scheduled date only. These laboratory exams will be closed book, closed notes with the only resource being your laboratory notebook! Failure to take the Final Exam will result in an automatic fail in the course.

Laboratory Notebook:

- The laboratory notebook is used for your data. Anyone not having the laboratory notebook before the second day of class will be excluded from the laboratory. All notes **MUST** be taken down in the laboratory notebook.

Safety Goggles:

- During the Chemistry experiments, unless specifically told by your instructor, you must **ALWAYS** wear safety goggles while in the laboratory. Failure to wear safety goggles will dismiss you from the laboratory.

Safety Rules:

- Failure to follow the safety rules will result in your dismissal from the laboratory. Safety is the responsibility of all persons within the laboratory. Make sure you read the Safety Rules and Regulations and follow all guidelines.

Attendance:

- College regulations state that a student MAY be excluded from a course following accumulation of absences equal to a week of course work. If you are going to miss a week, PLEASE let me know so that you do not get excluded.
- If you decide to not take the class, it is your responsibility to drop the class. Failure to drop the class can result in a failing grade for the class.

Anyone found cheating WILL receive and "F" grade

SAFETY RULES AND REGULATIONS

**LABORATORY SAFETY IS NOT JUST THE RESPONSIBILITY OF THE INSTRUCTOR.
IT IS THE RESPONSIBILITY OF EVERYONE.**

**WHILE WORKING IN THE LABORATORY,
YOU ARE EXPECTED TO BE FAMILIAR WITH THE SAFETY RULES
AND TO CONDUCT YOUR LABORATORY WORK IN A SAFE MANNER AT ALL TIMES.**

The Laboratory Instructor will review the following Safety rules and regulations with you and will point out the location and operation of the fire extinguisher, safety shower, eyewash, and other laboratory safety equipment available.

1. While in the chemistry laboratory, you must wear approved safety goggles, wear shoes, confine long hair, and confine combustible clothing at all times. You will be working with chemicals that will stain clothing if you or your classmates are not careful, you may want to invest in a lab jacket.
2. You are not allowed to eat, drink, or smoke in the laboratory.
3. Before beginning work in the laboratory you should be familiar with the procedures you will be following as well as any special precautions or changes that the instructor may note. Report any unexpected events to the instructor immediately.
4. No unauthorized experiments may be performed. Violators will be subject to disciplinary action. Do **NOT** begin any experiment without the instruction in the classroom.
5. Before leaving the chemistry laboratory, be sure to wash your hands carefully.
6. In the event of an accident, the laboratory instructor should be immediately notified.
 - a. If you receive a chemical burn, immediately flood the area with cold water while another student summons the instructor.
 - b. Treatment for injuries may be obtained only from qualified medical personal.

Tentative Laboratory Schedule

Date		Experiment	Material	Subject
4/8/2008	Tuesday	Instructor Not Present		
4/12/2008	Saturday	-- -- -- -- Handout	Introduction Review of Safety Rules Review of Notebooks Significant Digits Graphing	Physics / Chemistry / Astronomy
4/15/2008	Tuesday	1	Using Graphs	Physics / Chemistry
4/19/2008	Saturday	2	Density of Liquids and Solids	Physics / Chemistry
4/22/2008	Tuesday	3	Velocity and Acceleration	Physics
4/26/2008	Saturday	4	Vectors and Equilibrium	Physics
4/29/2008	Tuesday	5	Simple Pendulum	Physics
5/3/2008	Saturday	6	Energy of Falling Bodies	Physics
5/6/2008	Tuesday	9	Comparing Indices of Refraction	Physics
5/10/2008	Saturday	First Lab Exam All Notebooks Due		
5/13/2008	Tuesday	Handout	Paper Chromatography	Chemistry
5/17/2008	Saturday	-- 7	(Notebooks Returned) Specific Heat and Calorimetry	Chemistry
5/20/2008	Tuesday	Handout	Chemical Bingo	Chemistry
5/24/2008	Saturday	11	Physical and Chemical Properties and Changes	Chemistry
5/27/2008	Tuesday	13	Identification of Unknowns	Chemistry
5/31/2008	Saturday	Final Exam All Notebooks Due		

Laboratory Notebooks

(Note: Your Notebooks will be graded using this criterion.)

General Directions

1. Always write in ink. (NO PENCIL!)
2. Write only on the right-hand side of the page. (The left-hand side of the page should be used for calculations, notes, etc...)
3. Number all right –hand pages in the upper right-hand corner.
4. Just beneath the page number indicate the date on which the laboratory work was done. When the experiment work is done on two different dates, indicate the second date (right – hand margin) at the point where the second day’s work begins.
5. The laboratory notebook is an **original permanent record**. This means several things:
 - a. You must write down all data directly (in ink) in the lab notebook. There will be a grade penalty when a student disregards this rule. (The rule means: no writing in pencil; no writing on the lab report sheet, on pieces of paper, etc...)
 - b. There will be no erasures, no “white out”, and no missing pages. One thin line may be used to cross out offending material. (Later you may discover that you need this information and this way you can retrieve it!)
 - c. **Never Remove a Pager from the Laboratory Notebook.** (At some points this practice could have legal implications; patent fights are won and lost on the legitimacy of lab notebooks.) If you do make a dreadful error and would like to remove a page, do the following: draw a diagonal line across the entire page.
 - d. Holes and spots from chemical spills are legitimate artifacts; do not worry about them.

Format for the Laboratory Notebook

1. Leave one or two pages at the beginning for a **Table of Contents**. On this, list each experiment title (as you perform the experiment) and in a column at the right of the page, give the page number where the experiment write-up starts.
2. Begin each experiment on a fresh right-hand page. Each write-up includes:
 - a. **Title:** At the top of the page give the title of the experiment.
 - b. **Page number and date:** At the top right-hand of each page.
 - c. **Purpose:** Describe what you are doing and why. Describe what information you are attempting to gain by doing this experiment.
 - d. **Procedure:** Give references to the location of the procedure in the text and any deviations from the procedure in the text.
 - e. **Data:** This includes all the observations, measurements, etc... that you make in the laboratory. The data should be presented in tabular form. Check the report sheet to get ideas from the types of tables that are helpful for presenting data for that particular experiment.
 - f. **Results:** These include all the things that you have calculated from the data. Note: results are not calculations, but calculations based on data give results.
 - g. **Discussion & Conclusions:** A short paragraph discussing the results of the experiment. This section should answer the questions from the “Purpose” above. This

is the place to mention significant sources of error and the effect they have on the results