

ASSESSMENT: Student achievement of the course will be measured in terms of student performance in the following areas: (1) Reports describing the results and discussion of each experiment (40 %), (2) Degree of participation in group experiments (40 %), and final examination (20 %).

EXPECTED ACADEMIC BACKGROUND: None

GROUP EXPERIMENTS

Usually, experiments will be carried out with a group of two to three students. The groups will be determined by you by a draw using a card. At the beginning of each class, you are to select one card, and the numbering of the card specifies your group number (group 1 through group 6).

POLICIES

1. Policy on attendance:

Attendance is basically mandatory. You are expected to attend all the classes and actively participate into group experiments. For those of you who have to be absent due to legitimate reason will be given a chance of makeup.

Usually, important instruction will be given at the beginning of each class. It is thus very important that you attend the class punctually. It is expected that you come to the class at least five minutes before the class starts. Delayed attendance will be counted as one-half absence.

Fortunately, we have two sections: one in Tuesdays and one in Wednesdays. Thus, the easiest way for you to do makeup is to join the other section. In this case, you should carefully examine the time schedule (shown in this syllabus) so that are able to do the experiment that you are going to miss. **Important: It is basically expected that you inform the instructor beforehand through e-mail or orally.** If you can makeup in this way, you can work together with other students. Otherwise, your makeup experiment might have to be carried out by you alone.

For those of you who have to be absent due to job hunting, special arrangement will be provided.

2. Policy of reports

At the end of each week, you are expected to submit the report briefly describing the results of experiments.

Basically, you are to submit the report at the end of each class; however, if you are unable to finish it by time, you can submit it before the following week with instructor's permission. The submitted report will be returned to you within a week.

Try not to loose any of the returned reports because you are allowed to bring in all the returned reports in the final examinations.

FORMAT AND ACTIVITIES

The class basically starts with description of theoretical background. After this, each group of students is expected to do experiments. The last 30 minutes will be spent for writing the report.

WHAT TO DO IF YOU ARE NOT ABLE TO FINISH EXPERIMENT DURING THE TIME?

The experiment to be carried out in each week is designed so that the average students are able to finish entire work about one hour or so. Therefore, most of groups must be able to finish the whole work within one hour and forty minutes. However, if your group is unable to finish the work within the time due to unexpected matters, you may choose one of the following two ways.

(1) You may stay in the laboratory until you finish the entire work. The instructor is willing to stay in the lab until every group finishes. (2) You may leave the lab on time and submit the report in the following week. In this case, however, you have to get the instructor's permission.

HOW TO FINISH THE ENTIRE EXPERIMENT WITHIN THE TIME?

In previous semesters, there were several occasions that some groups were unable to finish experiments during the time and had to stay in the lab thirty minutes or more. This is not at all a satisfactory situation. Each group must try to finish experiment during the time.

The reason that you are unable to finish the experiment within the allotted time is mostly due to the fact that you do not read the manual. Students are liable to start experiment without reading the manual. You must understand, however, that starting experiment without understanding the theoretical basis and theoretical background described fully in the manual often lead you to erroneous direction. In many cases, students notice that they are doing in a direction that is entirely different from what you should do, and must repeat the entire work from the beginning. This is the case that students are unable to finish the experiment. Thus, it is very important that **you first read the manual and fully understand the theoretical basis and theoretical background before starting experiment.**

TENTATIVE SCHEDULE

* Note that Friday, December 4 will be the Tuesday class day.

Date Section 1	Date Section 2	Theme
9/8	9/2	Introduction Numbers Used in Physics and Significant Figures
9/15	9/9	Linear Motion (1) Slow Motion of Your Walk
9/29	9/16	Linear Motion (2) Motion of a Cart Along a Slope Determination of the Earth's Gravity
10/6	9/30	Weight in Accelerating and Non-Accelerating Frames
	10/7	Reserved for Makeup Experiments
10/20	10/14	Newton's Second Law of Motion
10/27	10/21	Force of Buoyancy
	10/28	Monte Carlo Method to Determine π
11/10	11/4	Temperature and Heat Transfer
11/17	11/11	Determination of the Size of a Nucleus
11/24	11/15	Greenhouse Effect
12/1	11/25	Bernoulli's Equation
12/4*	12/2	Diffraction of Light. Determination of Wavelength of a Laser Light
12/8		Monte Carlo Method to Determine π
12/15	12/9	Conversion of Kinetic Energy into Heat. Student Evaluation
12/22	12/16	Final Examination