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CHAMINADE UNIVERSITY OF HONOLULU PHYSICS 251L - UNIVERSITY PHYSICS I SYLLABUS

Semester: Spring 1999

Instructor: James Salvail, Ph.D (Office Phone: 956-3153)

Objectives: 1) To acquaint students with laboratory procedures and equipment used in physics; 2) to provide students with an opportunity to apply principles of physics in laboratory situations, and 3) to give students experience in scientific writing.

Grades: Grades will be given separately from those given in the lecture section and will be based solely on lab reports to be submitted weekly. The lab reports will be graded on a scale from 0 - 10. The following grading scheme will be used:

- A - 8.5 - 10.0
- B - 7.5 - 8.5
- C - 6.5 - 7.5
- D - 5.5 - 6.5
- F - < 5.5

Numerical grades falling on the boundaries of a letter grade increment will be given the higher letter grade. Grading of lab reports will be based on the following considerations: 1) completion of the work specified on the handouts or by the instructor, 2) correctness of the calculations, 3) correct use of units, 4) an error analysis, 5) adherence to the prescribed format and 6) general neatness and readability of the report.

Attendance: Regular attendance is of the utmost importance. No lab reports will be accepted for work that is not done in class. If you must be absent for an unavoidable reason, you will normally be expected to complete the work at the next lab session for which you are present. Although lab sessions are scheduled for three hours, in most cases the assigned work can be completed in considerably less time, allowing students time to complete lab work that is past due.

It is important to understand the grade definitions which guide the awarding of letter grades. Grading criteria as stated in the Chaminade undergraduate catalog are as follows:

A - Outstanding scholarship and as unusual degree of intellectual initiative.

B - Superior work done in a consistent and intellectual manner.

C - Average work indicating a competent grasp of subject matter.

D - Inferior work of the lowest passing grade, is not satisfactory for fulfillment of prerequisite coursework.

F - Failed to grasp even the minimum subject matter; no credit given.

I - Did not complete a small portion of the work or final examination due to circumstances beyond the student's control. The issuance of an "I" grade is not automatic. Prior to reporting of grades a contract must be made between the student and the instructor for the completion of the course.

Laboratory Experiments:

Week Topic

1. Determination of density and identification of materials
2. Study of statistics using pennies
3. Force table - vector addition of forces
4. Inclined Plane - Coefficient of friction
5. Conservation of Energy - Atwood's Machine
6. Centripetal Force
7. Study of torque using a loaded meter stick
8. Rotational inertia
9. Hooke's Law - Elasticity of materials
10. Hooke's Law II - characteristics of oscillating spring-mass system
11. The simple pendulum - what does the period depend on?
12. Speed of sound
13. Phase Changes - Heat of Fusion