

Chaminade University of Honolulu
2002 Spring, Physics 152
January 14-May 10, 2002

Course: Physics 152L Laboratory for College Physics
Location: Henry Hall, H-37
Time: 2:00-4:50 W
Instructor: Dr. James W. Miller
Communications: Office: 735-4811
Home: (808)521-1634
55 South Kukui Street #1908
Honolulu, HI 96813
email: jmiller@chaminade.edu
email: JWMILLER27@aol.com

Office Hours: 10:30-12:00 MWF
Additional times by appointment

- I. Textbooks (Req): N/A
- II. Textbooks (Rec): N/A
- III. Other Requirements: Scientific Calculator, Lab Notebook
- IV. Course Description: Physics 152L Laboratory for College Physics is a set of laboratory exercises to assist the students to gain an experimental and intuitive sense of the principles of physics covered in their lecture classes. These principles include electric charges, electric fields, electric energy, and electric circuits, electromagnetism, E-M waves, geometrical and wave optics, applied optics, special relativity, electrons, photons, atoms, the nucleus, and selected topics in modern physics.
- V. Course Intent: The intent of the course is to provide for students the opportunities to examine in structured ways the methods of science used to examine new information and to replicate or verify information.
- VI. Course Objectives:
- A. For each of the topics of physics studied in lecture classes, gain intuitive and experimental understandings appropriate to an academic background and to fields of specialization.
 - B. In addition, a course objective is to assist each student to gain experimental understandings to augment his repertoire of physics.
 - C. In addition, a course object is to provide for each student a command over the use of equipment commonly found in laboratories of physics.
 - D. In addition, a course objective is to provide for each student with a larger insight of the principles of physics.
- VII. Course Format: Each class session will contain three parts: Information and experiment strategy, activity, data gathering, analysis and synthesis.
- VIII. Requisite: Concurrent registration in Physics 152 College Physics I Laboratory.
- IX. Prerequisite: Math 110 Pre-Calculus (comfortable with quadratic functions; manipulations of polynomials; functions and graphs; exponential and logarithmic functions, and trig functions and inverses).

Chaminade University of Honolulu
2002 Spring, Physics 152
January 14-May 10, 2002

X. Course Requirements:

Attendance/General Performance
Data Sheets/Lab Summaries
Selected Expanded Lab Reports

XI. Grading System:

15% Attendance/General Performance
45% Data Sheets/Lab Summaries
40% Selected Expanded Lab Reports

100% Total for Final Grade

Grading Scale:

A	90-100 %	Outstanding scholarship and excellent initiative with the lab work
B	80-89%	Superior quality done in a consistent intellectual manner with the lab work
C	70-79%	Satisfactory grade showing competent understanding of the lab work.
D	60-69%	Lowest passing grade but not sufficient to fulfill prerequisite work.
F	59% and lower	Unsatisfactory understanding of the lab work; no credit given.
I		Grade is not automatic. Grade deferred because student did not complete work because of circumstances beyond his control. Student must enter into a contract with the instructor to complete work time certain.

XII. Timetable/Assignments/Schedule (Attached).

T 01/16 Lab -- Electrostatics--Wimshurst, Van DeGraaf
T 01/23 Lab -- Capacitance/Resistance
T 01/30 Lab -- Ohm's Law
T 02/06 Lab -- Kirchhoff's Rules/Circuit Analysis
T 02/13 Lab -- EM induction/Loudspeakers
T 02/20 Lab -- Resonant circuits
T 02/27 Lab -- Speed of Light (Notes--Roemer)
T 03/06 Lab -- Mirrors and Lenses
T 03/13 Lab -- Diffraction and Spectroscope
T 03/20 Lab -- Photoelectricity
Spring Recess
T 04/03 Lab -- Lasers (Demo and Notes)
T 04/10 Lab -- Wilson Cloud Chamber
T 04/17 Lab -- Electron Diffraction
T 04/24 Lab -- Einstein Condensate (notes)
T 05/01 Lab -- Geiger Counter

Chaminade University of Honolulu
2002 Spring, Physics 152
January 14-May 10, 2002

T 01/16 Lab -- Electrostatics--Wimshurst, Van DeGraaf

T 01/23 Lab -- Capacitance/Resistance

T 01/30 Lab -- Ohm's Law

T 02/06 Lab -- Kirchhoff's Rules/Circuit Analysis

T 02/13 Lab -- EM induction/Loudspeakers

T 02/20 Lab -- Resonant circuits

T 02/27 Lab -- Speed of Light (Notes--Roemer)

T 03/06 Lab -- Mirrors and Lenses

T 03/13 Lab -- Diffraction and Spectroscope

T 03/20 Lab -- Photoelectricity

T 04/03 Lab -- Lasers (Demo and Notes)

T 04/10 Lab -- Wilson Cloud Chamber

T 04/17 Lab -- Electron Diffraction

T 04/24 Lab -- Einstein Condensate (notes)

T 05/01 Lab -- Geiger Counter