Physics 123L
Section 19 (CRN 33238): Mo. 8:00-10:30 am; Section 18 (CRN 33237): Tu. 8:00-10:30 am
Room 3-2623/3-2615, CSU Pomona, Spring Quarter 2015

Instructor: Dr. Julie J. Nazareth  
Office Hours: Mon, Wed 10:30-11:00 am
Office: 8-215  
Tu 10:30-11:30 am
E-mail: jjnazareth@csupomona.edu
Phone: 909-869-4029 (for emergencies with follow up e-mail to instructor ASAP)
Text: Physics 123L Laboratory Manual (the most current edition)
Pre-requisite: Phy 121, Phy 121L, Phy 122, Phy122L; Co-requisite: Phy 123
Lab/Room Schedule: download from http://www.csupomona.edu/~physics/students.htm
Pre-lab & Lab (data) sheets can be downloaded from instructors class website:
www.csupomona.edu/~jjnazareth phy123L.html

Office hours will be held in the lab room after class, not the instructor’s office.
Mondays and Tuesdays (after Phy 123L): 3-2326 (odd weeks of quarter); 3-2615 (even weeks of quarter)
Wednesdays (after Phy 122L): 3-2004 (odd weeks of quarter); 3-2016 (even weeks of quarter)

Grading: This class will most likely be graded on a “curve”. (Average grade in section = B range)
The curve will only help not hurt your grade, and may improve your grade over that earned through straight
percentages (90+% A range; 80-89.9% B range; 70-79.9% C range; 60-69.9% D; < 60% F).
Pre-Labs 17%
Weekly Lab Reports 50%
Participation 8%
Lab Final Exam 25%

Note: Physics Department policy states that two or more missed lab experiments (and not made up) will result
in a grade of F for the class.

Academic Integrity: Cheating in any form is not tolerated and may result in a failing grade in the class.
Students are expected to be familiar with the university policy on academic integrity.

Pre-Labs: A pre-laboratory assignment will be assigned each week (except week 10) to help prepare the
student for the coming experiment. Pre-labs are due promptly at the beginning of class - please be on time.
Late pre-labs will NOT be accepted. Pre-labs may be turned in early to the professor’s office or e-mail account,
if a student will be absent during the normal class period. Pre-labs may be waived at the instructor’s discretion
for a compelling reason such as illness (documentation may be required). Contact the instructor ASAP.

Lab Reports: Each student will submit a lab report (written in their own words), completing the necessary
elements as required by the instructor (See posted lab data sheets for specific instructions). Lab work must be
signed off by the instructor at the end of every lab period. Lab reports not complete by the end of the normally
scheduled lab period may be taken home, completed and returned by the beginning of class the following week.
Late lab reports will be penalized 10% per week and will not be accepted more than three weeks past the due
date. No late lab reports will be accepted after Wednesday, June 3, 2015 at 11:00 am (10th week).

Only one missed experiment may be made up during lab make-up week (week 10). This 10th week
make-up lab is a special make-up lab and is likely to be more difficult than the lab you have missed. In addition,
the lab write-up is due at the end of the lab period in 10th week. Therefore, because of this and in case of
multiple absences, it is recommended that the student try to make-up a lab missed because of an absence in
another section during the same lab week (with the alternate instructor’s permission). [Follow the alternate
instructor’s instructions during the lab, but complete Dr. Nazareth’s lab write-up as much as possible.] Make
sure you have the alternate instructor sign and date your data sheet. The lab report for the experiment made up
in another section is still due at the beginning of the next class meeting.

Lab reports are evaluated upon the following: 1) laboratory skills; 2) data analysis; 3) understanding of
physics principles; and 4) communication skills. See also The Do’s and Don’ts of Physics Lab Reports and
Expectations for Lab Reports.
**Participation:** This includes on-time attendance at the lab, active participation in the lab experiment, and quality of performance of laboratory skills/techniques. To do the lab experiment well and in a timely fashion, the student must come to class adequately prepared to do the lab and lab report.

**Lab Final:** One short lab final (≤ 30 questions in 30 minutes) will be given at the beginning of the normally scheduled class during 10th week. The lab final exam is based on the lab experiments - underlying physics theories, lab techniques/procedure, and analysis techniques used. Ask questions if you don’t understand and take notes as you go – you will not have all lab reports or pre-labs returned to you before taking the exam. The lab final exam will be closed everything except unlimited pages of handwritten notes personally created by the student (no lab manual, graded work, print-outs, downloads, or photocopies). Please bring scantron form 882-E, a calculator, pencil, eraser, and blank scratch paper to the lab final exam.

**Pre-Lab and Lab (Data) sheets are available online from**
the instructor’s website: [www.csupomona.edu/~jjnazareth](http://www.csupomona.edu/~jjnazareth)
go to the Courses web page then click on Phy 123L view, download, or print documents

**Students are not required to print out the Pre-labs or use the lab (data) sheets.** Pre-labs can be completed and turned in on regular paper or if the student will be absent or late to class, e-mailed to the instructor’s e-mail by the beginning of class on the due date. It is recommended (but not required) that students print out and use the instructor’s lab (data) sheets because they contain the details on what is required for the lab write-up (e.g., sections of the lab to be performed, required graphs, questions to answer). However, students may create their own lab sheets (by computer or by hand using a straight edge) following The Do’s and Don’ts of Physics Lab Reports and Expectations for Lab Reports.

**COURSE OBJECTIVES:** Upon completion, this course should have provided students with the following:
- An introduction to physics’ role as a basic science with hands-on experience regarding natural phenomena
- To develop your skills in presenting the results from experimental work in the form of laboratory reports
- Practical experience with measurements in experimental work including: graphing, uncertainty analysis, correct use of units, calculations, error analysis

**LABORATORY PROCEDURES:**
Each week a new laboratory exercise will be performed with one partner. Although it is sometimes difficult to fully understand the lab procedures until you are in the lab with the equipment, it is important that you review experimental procedures and pertinent theory (formulas) associated with the lab exercises before class. The student should come to class prepared to do the lab and the required write-up. You should read the lab manual and background material in detail before coming to class. If this is not completed before class you may waste time attempting to determine what needs to be completed DURING the lab period. At the beginning of each lab period, the instructor will introduce the laboratory experiment and background physics concepts relevant to the day’s lab. Listen carefully to the lecture as important theories, lab objectives, observations, and specific instructions on performing the experiment and analysis (including altered procedures) will be announced.

**CAL POLY PHYSICS LAB COURSE STRUCTURE:**
Each Student:
- Completes all scheduled experiments, learning lab techniques with a variety of equipment
- Documents with a written record of all experimental data and relevant observations for each experiment
- Performs calculations for each experiment and summarizes results
- Writes samples calculations, record results, plots relevant graphs, and completes any other elements as directed by the instructor
- Maximizes the 2 ½ hours lab period as needed for data acquisition, analysis, and other elements of the experimental report, seeking the instructor’s guidance as needed.

*** The above Objectives, Procedures and Course Structure have been adapted from the Physics Department Instructor’s Guide and from the Spring 2005 Phy 121L Syllabus by Steve Boddeker. ***