



## Cal Poly Pomona, Physics 131L

<b>Instructor: Dr. Nina Abramzon</b>	<b>email:nabramzon@csupomona.edu</b>
Office: Building 8 Room 224	Phone: 869-4021
<b>Office Hours:</b> Office hours: Wed 11:00-12:00, 1:30-2:30, Office hours by appointment: Mon 11:00-12:00, Tue 10:00- 11:00, Thur 10:00-11:00	
<b>Class Hours: Tue 8:00-10:50</b>	
<b>Laboratory Manual:</b> We won't be following the standard lab manual experiments in this lab section. I will pass out the experiment instructions on the day of the experiment. We will do very similar experiments as in the regular manual, but with an emphasis on inquiry based learning.	
<b>Class web page:</b> <a href="http://www.csupomona.edu/~nabramzon/courses.htm">http://www.csupomona.edu/~nabramzon/courses.htm</a>	

**Goals and Expectations of the Laboratory Course :** The primary goal of this course is to convey physical concepts through experiments while developing critical-thinking and experimental skills. In addition the course will teach you how to report results in a scientific way, and how to work in a group. A variety of quantitative laboratory skills will be taught during the course. Below is a list of some of the skills that you will be learning and improving. These are some of the things that I will be looking at when I evaluate your reports. Different experiments will emphasize different points.

1. **Data Taking:** Be sure that you take all the relevant data, and that it is presented in a neat manner. That is, it is easy for someone else to understand what you did. Be sure all your data, and any derived quantities or uncertainties have the proper units. Be sure your data has the correct number of significant figures. Also, for every measurement that is made, a rough idea of the uncertainty of the measurement.
2. **Graphing:** Be sure your axes are labeled properly, and be sure that the axis have appropriate scales.
3. **Thinking Physics (synthesizing the data):** You will be asked to determine what laws of physics (if any) are being demonstrated, or what is the significance of the experiment.

**Grading:** Weekly Lab Reports 40%  
Quizzes (4) 60%

\*Note: **One missed lab will result in a letter grade reduction. Two or more missed labs will result in a grade of "F"**. In extreme situation with proper documentation (e.g. doctor's note, record of a tow, etc.) it will be possible for you to make up one missed lab. The make-up lab period is at the end of the semester.

**Weekly Lab Reports:** The format of the weekly report will vary from week to week, and will be due at the end of the laboratory period. The reports will be written up on notebook paper, and, when appropriate, graph paper. Every student will turn in his/her own report. The contents of the weekly report will depend on the experiment and will be discussed during the lab period.

The weekly report will vary from week to week, but in general should consist of a few pages containing the most important aspects of the experiment. These will include:

1. All data (units and sometimes an estimate of the uncertainty)
2. Any graphs that are required
3. Any calculations that are required
4. Answers to any questions that are assigned

The weekly report can be turned in on regular paper and graph paper. (i.e. it is not necessary to use a lab book). I will try to return lab reports during the lab period, however, if there is not enough time for me to

grade all of the reports, they will be available in my office on the following day. Lab reports will receive either a check (v) or a minus (-). Letter grades will not be given on lab reports.

**Quizzes:** There will be four quizzes during the quarter. See the schedule below for the days of the quizzes. For the quizzes, **BE SURE TO ARRIVE TO CLASS ON TIME, SINCE THE QUIZ BEGINS AT THE START OF THE CLASS AND LASTS ONLY 20 MINUTES)!!**

You should keep all of your lab notes, data, results, written summaries and reports in a notebook or a folder. **It is to your advantage to keep your notes as well organized as possible because they may be used during the quizzes.**

The laboratory should be an enjoyable experience in which you learn how to use some new equipment, learn some data analysis skills, see that physics is really fun, and make some new friends.

#### Schedule of Experiments and Quizzes

<u>Date</u>	<u>Experiment</u>	<u>Room</u>
Jan 7	Introduction	3-2628
Jan 14	Uncertainties in Measurement	3-2019
Jan 21	Holiday	3-2628
Jan 28	Vectors <b>Quiz</b> 10%	3-2019
Feb 4	Atwood Machine, <b>Quiz</b> 10%	3-2628
Feb 11	Uniform Circular Motion	3-2019
Feb 18	Conserved Quantities , <b>Quiz</b> 15%	3-2628
Feb 25	Static Equilibrium	3-2019
Mar 4	Rotational Dynamics	3-2628
Mar 11	<b>Quiz</b> 25%	3-2019

*Any student who feels s/he may need an accommodation based on the impact of a disability may contact me privately to discuss your specific needs, or may contact Disable Student Services at 909-869-3333 in room 126 of the University Library to coordinate reasonable accommodations for students with documented*