Syllabus: GP2 Lab

Spring 2021

Info

- **Instructor:** Vinu Abeywick, vabe@nyu.edu
- **Room:** Meyer 222
- **Class hours:**
  - Sec 07: Mon 1.30pm-3.50pm
  - Sec 11: Mon 4.00pm-6.20pm
  - Sec 04: Thu 11.00am-1.20pm
  - Sec 08: Thu 1.30pm-3.50pm
- **Office hours:** https://nyu.zoom.us/j/91270104640
  - Tue/Wed/Fri 4.00pm-5.00pm ET (or by appointment—please ask)
- **Github:** https://github.com/vaabe/phys12
- **Miscellaneous resources/demos:** https://physlab.fun

Description

This laboratory course is intended to help you understand the basic principles of waves, electromagnetism, and optics. There are 10 labs in total:

Feb 11	1 - Sonometer
Feb 18	
Feb 25	2 - Resonance Tube
Mar 4	3 - Electrostatics
Mar 11	4 - Electric Field Mapping
Mar 18	
Mar 25	5 - Voltage, Current, Resistance
Apr 1	6 - Charge to Mass Ratio of Electron
Apr 8	7 - Current Balance
Apr 15	8 - Induction
Apr 22	
Apr 29	9 - Snell's Law
May 4	10 - Eye

In-Person vs Remote

You choose at the beginning of the semester whether you're going to take this course in-person or remotely. The department's policy is that you should stick to your choice throughout the semester (to the extent that you can; obviously we'll make reasonable exceptions due to covid).

In-Person Labs

If you're taking the course in-person, you will perform the experiments individually. You should read the manual before coming to class so you know what to expect. [At the very least you should skim over the theory. E&M is non-trivial and it'll be easier if you actually understand what you're observing].

Remote Labs

Each week we'll post the relevant lab materials (data, videos, simulations, etc) in the google drive folder. You should base your report on the data we provide. There will be two or three zoom office hours each week. These meetings aren't mandatory but I encourage you to show up and ask questions. Asides from that you'll be working fairly independently, and it's your responsibility to manage your time and keep up with the schedule.

Assignments

Each week you will write a report on the experiment you performed that week. I will mark your submission out of 10:

- **Theory: /2**
- **Experiment Setup: /2**
- **Results: /6** (split into three subsections)
  - **Presentation of data: /2**
  - **Analysis of results, discussion questions: /2**
  - **Sources of error: /2**

I've also posted a guide with more detailed advice on writing reports. Give it a read if you're stumped for ideas.

Deadlines

Reports are due at the beginning of the next scheduled session (i.e. Thursdays). Please be reasonable.

Resubmission

Throughout the semester I'll allow you to resubmit two reports for a better grade. Email me.