

Physics 307L

Spring 2021

Prof. Darcy Barron

Reminders

- Reminder: you will complete 6 experiments this semester, give 3 presentations, and write 3 full lab reports in the style of a scientific paper
- First written lab report is due Wed. March 24
 - Lab report cannot be on Lab 0
 - https://ghz.unm.edu/education/juniorlab_pdfs/labreport_guidelines.pdf
- **Please submit lab notebooks as a single pdf file with naming “PHYS307L_Lab#_Name.pdf”**

Upcoming Schedule

- By spring break, everyone will have completed:
 - Balmer Series
 - Poisson Statistics
 - Speed of Light
- After spring break, we will revisit the error analysis for these 3 labs in more detail in lecture
- After spring break, there are 7 lab sections left
- You will complete 3 longer, advanced labs on your own before the end of the semester
- Email me by Friday at noon with your first and second choice for experiment to start after spring break

Challenging Modern Physics experiments

These require independent problem solving – harder than intro physics labs

10 experiments

0) Intro (RC Circuits, the oscilloscope, Chua's Circuit)

1) Speed of Light

2) Poisson Statistics

3) Balmer Series

4) Planck's Constant

5) Compton Scattering

6) Electron Diffraction

7) Ratio e/m

8) Franck-Hertz experiment

9) Electron spin resonance

10) Millikan oil drop: electron charge

11) Acoustic Impedance Spectroscopy

Descriptions here: https://ghz.unm.edu/juniorlab/index.php?title=Main_Page