

General Physics II Lab - PHYS 216L

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M 1:30 - 4:30 PM MSB 118

Office: LSF L103-I

Office Hours: T 3:30 - 4:30 PM, TH/F 2:00 - 3:00 PM (or by appointment)

Textbook (**required**): PHYS 216L Lab Manual (same as 215L manual)

Learning Goals:

By the end of this course, the student will

- Be comfortable recording data and observations from simple experiments
- Obtain a greater appreciation for the connection between classwork and reality
- Be able to express and discuss the results of an experiment in a clear manner that allows for the student's work to be reproduced by others

Schedule of Labs (subject to change)

Week of January 27:	Mapping Electric Fields
Week of February 3:	Capacitors
Week of February 10:	Ohm's Law & DC Circuit Fundamentals
Week of February 17:	Series and Parallel Circuits
Week of February 24:	Kirchoff's Laws
Week of March 2:	Mapping Magnetic Fields
Week of March 9:	Electromagnets
Week of March 23:	Faraday's Law (EM Induction)
Week of March 30:	Alternating Current (AC) Circuits
Week of April 6:	Reflection and Refraction
Week of April 13:	Lenses and Mirrors
Week of April 20:	Diffraction and Interference

	Poor	Adequate	Exceptional
Completion of lab	Student attempted only a small portion of the lab. (0 - 10 pts)	Student did not fully complete the lab activity. (11 - 15 pts)	Student completed the lab activity. (16 - 20 pts)
Results	Results show little evidence of effort or carefulness. Units are not used or are used incorrectly. (0 - 5 pts)	Some results are outside acceptable uncertainty/error bounds. Some units may be missing. (6 - 15 pts)	Results are reasonable and contain appropriate units. Some errors may be present. (16 - 20 pts)
Analysis	Analysis is incorrect and shows little understanding of the physical principles. (0 - 10 pts)	Analysis varies in correctness and/or completeness. (11 - 20 pts)	Analysis is correct and expressed coherently. Some errors may be present. (21 - 30 pts)
Calculations	No calculations are shown or they are incorrect. (0 - 4 pts)	Calculations lack units and/or contain multiple errors. (5 - 8 pts)	All calculations are performed correctly and contain the proper units. (9 - 10 pts)
Conclusion	Conclusion is missing or contains no meaningful discussion. (0 - 5 pts)	Conclusion contains significant errors in discussion of results and sources of uncertainty. (6 - 15 pts)	Conclusion gives reasonable interpretation of results and contains valid sources of uncertainty. (16 - 20 pts)

Academic Integrity

The labs are completed as a group, but each lab report must be the sole product of each student's brain and effort (in other words, all cheating or plagiarism will be reported and handled as detailed in the Student Handbook). There will of course be significant similarity in the reports within a group, but **each student should use their own words** (and not those of the lab manual nor their lab partner). For my part, I will not discriminate against any student for any reason and will make any reasonable accommodations necessary to meet a student's needs. No discriminatory or hostile behavior toward fellow students will be tolerated. If you experience or witness discriminatory, abusive, or other unwanted behavior, you should contact me, the Title IX Coordinator, and/or campus police, as appropriate.