

GENERAL PHYSICS II LABORATORY

Description: Laboratory to accompany PHY 132

Prerequisites: Concurrent registration in PHY 132 is required.

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Office Hours: MWF: 1:00-1:50 & MR 2:00 – 5:00 p.m. Feel free to come by and see me at any other time too! If I'm in my office, I'll be glad to help with any questions or concerns you may have.

Textbook: **Introductory Experiments in Electromagnetism**, 2nd edition, R. Ross, John Wiley & Sons (2000). Textbook is available in the bookstore. You **must** bring your textbook to class. You will not be able to or allowed to do an experiment without it!

Objectives: As you go through the lab experiments, you will learn how to:

- Design and set up small experiments
- Measure and record data for analysis
- Analyze experiments experimentally, graphically and analytically
- Compare and discuss your predictions with the experimental outcomes
- Work in a team to complete each assignment.

Outcomes: Through this course, you should able to

- Develop operational definitions for complete electric circuits, electric current, resistance, and voltage.
- Predict the behavior of simple circuits based on an electric current model
- Build and analyze circuits containing resistors and capacitors
- Investigate the magnetic field due to a current carrying wire
- Observe electromagnetic induction effects
- Draw ray diagrams
- Measure the focal length of lenses and combinations of lenses
- Analyze a diffraction pattern produced with a diffraction grating

Requirements: a) Attendance at all lab sessions is mandatory. **You must come to class on time!**
b) Make sure you take all required data during the allotted lab time.

Reports: Each laboratory activity is accompanied by a laboratory report that is completed in class. Your textbook has the necessary reports that you will need to complete and submit during class time. Reports form 90% of your total grade.

Quizzes: There will be a series of short quizzes during the semester. These quizzes will form the individual component of your grade. The format of the quizzes may vary. Quizzes form 10% of your grade.

Grading: Grades will be assigned to each of your reports and quizzes. The final semester grade will be based on these components.

Grades: An approximate grading scale is given below. Class grades are **not** curved.

93-100 : A	65-70 : C+
88-92 : A-	60-64 : C
83-87 : B+	55-59 : D
77-82 : B	<55 : F
71-76 : B-	

Remember: January 18 : Last day to add a class
 February 4 : Last day to drop a course without a "W"
 March 1 : Mid-term grades due
 April 1 : Last day to withdraw from class

Honesty: The fundamental assumption under which the University operates is that work submitted by a student is the product of her or his own legitimate efforts. In other words, make sure the assignments you submit reflect your own work! Any student suspected of cheating or plagiarism will be dealt with according to the policy set out in the Engineering and Science Student Handbook.

Schedule: A tentative schedule of lab projects is given below. It may be changed, if needed.

WEEK	EXPERIMENT
Jan. 17	Electricity
Jan. 24	Electric Current and Circuits
Jan. 31	Series and Parallel Networks
Feb. 7	Electrical Measurements I - Current
Feb. 14	Electrical Measurements II – Voltage & Resistance
Feb. 21	Electric Power & Kirchoff's Laws
Feb. 28	RC Circuits
Mar. 7	No Experiments This Week
Mar. 14	Magnetic Fields
Mar. 21	Electromagnetic Induction
Mar. 28	Geometrical Optics
Apr. 4	Image Formation with Lenses
Apr. 11	Diffraction Grating