

Physics 262
Spring Semester 2009
LL 209, 516, 211 WF 1:10 – 4:00

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Lab LL 209
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Course Website: <http://www.lehigh.edu/~jph7/website/Physics262/Physics262Spring2009.html>
lab manual and other course materials will be posted here.

Accommodations for Students with Disabilities: If you have a disability for which you are or may be requesting accommodations, please contact both your instructor and the Office of Academic Support Services, University Center C212 (610-758-4152) as early as possible in the semester. You must have documentation from the Academic Support Services office before accommodations can be granted.

Course Assignments:

Must complete 7-10 laboratory projects (must include Lock-In, LabView, Machine Shop, Geometric Optics, Polarization, and Interferometry).

Lab notebook should contain notes, procedures, preliminary and final data.

Each project must be written up as a Report (see below). Any data or procedures given in the Report should be based on what is in the notebook).

Grades:

Lab notebook
Reports
Our observations

Reports:

- 1) Abstract
- 2) Introduction to the topic of the experiment – simple statement of purpose and basic method
- 3) Theoretical background
- 4) Experimental procedure
 - i) Apparatus – pictures are good but usually not sufficient
 - ii) Procedure – it is helpful to sketch the procedure ahead of time. In the lab book, the procedure should be noted (or at least confirmed) as the experiments proceed. Lab book is a record of what you actually did in the lab, chronologically. The report should summarize the final (working) procedure you used.

- 5) Experimental results and discussion (including error analysis)
 - i) Show your data in formatted tables and figures
 - ii) Calculations used in the analysis and leading to the final results (details of calculations should be done in the lab notebook.
 - iii) Error analysis
- 6) Summary
point out important results and their significance

Available Projects:

Lock-in Amplifier
LabView
Machine Shop
Geometric Optics
Polarization
Interferometry
Black Body Radiation
Nd:YAG Laser
Optical Fiber Amplifier, Fiber Laser
Sonoluminescence
NMR
Optical Tweezers

Additional projects that may be available:

Diode Lasers
Spectroscopy
Microwave Radiation
Holography
Additional projects of your design