

PHYSICS 212A: GENERAL PHYSICS LAB II

Dr. Danny Faulkner

Phone: (803) 313-7029, **Email:** drfaulkn@mailbox.sc.edu, **Fax:** (803) 313-7106

Office: Bradley 221

Office hours: 11:00 AM - Noon M,T,W,Th;

After 1:00 PM on M,T,W,Th; Other times by appointment

Spring 2012

Room: Bradley 204

Class meeting time: Wednesday 2:30 – 4:30 PM

Course Outcomes:

Upon successful completion of this class, the student will:

- Demonstrate proficiency in conducting physics experiments
- Properly handle and report quantitative data
- Analyze and report sources and amounts of errors in measurements

Welcome to PHYS 212 lab that accompanies the lecture course. Students will work in groups of 2-4 students. Each lab will be self-contained and will roughly parallel what we do in class. At the beginning of each lab, I will hand out printed instructions along with a work sheet. After I briefly discuss the purpose and procedure, you will work through the procedure in your group. When you finish your work, please turn in your work sheet along with any graphs, and then you are free to go. The grading scale will be the same as the lecture class:

ScoreGrade

90 - 100% A

80 - 89% B

70 - 79% C

60 - 69% D

We will do these labs in approximately this order:

10. Coefficient of linear expansion
11. Specific heat
12. Boyle's Law
15. Vibrating strings
17. The velocity of sound in a metal
18. Use of the oscilloscope
19. Mapping electric fields
20. Ohm's Law

21. Resistance and Resistivity
22. Resistive power loss
23. Electromagnetic induction
24. Measuring RC time constants
25. Measuring current and voltage phase relations
26. Resonance in a LRC circuit