PHYS 182L
Engineering Physics III Lab

Spring 2011

Instructor: Dr. Thomas Herring  Phone: 445-4277
Office: CED 310  Email: herrin32@wnc.edu

Office Hours:  T  12:00 – 2:15 pm
               W  1:00 pm -3:30 pm
               Th  1:00 pm – 2:15 pm

Text:  No required text.  A laboratory manual will be provided by the instructor.

Prerequisites:  Physics 181 & Math 182  Co-requisite:  PHYS 182

Meeting Times:  T  7:00 – 9:45 pm

Grading:
Class Participation  10%
Experiment Summaries 10%
Formal Lab Reports (4)  60%
Formal Presentation  20%

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<th>Percentage</th>
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<td>95% – 100%</td>
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<td>90% - 94%</td>
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Note that there is no “W” grade on the scale.  A “W” will only be given when requested by a student due to extreme circumstances and at the discretion of the instructor.

Class Participation:  Class participation will be based on my observations of how you work with your group during the course.  If you show up and participate in every lab you should get full credit.  If you let your group members do all or most of your work and/or are disruptive to the class you will get a reduced score in this portion of the grade.

Experiment Summaries:  For each experiment you perform you should write a summary of what you did and what you discovered.  There is no prescribed length or format.  These summaries should describe the very basics of your apparatus and experimental method as well as including a statement of what was measured and what you learned from the experience.
Formal Lab Reports: Four experiments throughout the semester will require a formal lab report. You will choose from experiments performed before the due date for each of the reports and write a formal report about that topic. Details on how to write a formal lab report will be covered in class. An example lab report will also be provided.

Formal Presentation: A 10-15 minute presentation about one of your experiments in the lab will be presented to the class as scheduled during the semester. A portion of your grade for the presentation will depend on evaluations from your classmates.

Makeup Policy: Two lab sessions during the semester will be reserved for making up any missed lab. No additional lab makeup will be available. If you have notified the lab assistant or instructor in advance that you will miss a lab session you will be allowed to make up the lab you missed.

Extra Credit: There is no extra credit available.

Dishonesty in Class: I don’t anticipate any problems but here’s the policy anyway. Any dishonesty/cheating will result in an F in the course.

Class Conduct: Please be respectful of the learning environment, your fellow students, the instructor, and any visitors. This includes entering and leaving the room quietly (especially if arriving late or leaving early), silencing cell phones during class (just leave the room if you need to take the call), and engaging in side conversations not relevant to the course material.

Disability Statement: WNC supports providing equal access for students with disabilities. Susan Trist (DSS Coordinator) is available to discuss appropriate academic accommodations that students may require. Please meet with me and contact Susan (445-3278) if you might require any accommodation.

I: Catalog Course Description

Explores light, optical systems, relativity, wave aspects of particles, quantum mechanics, statistical mechanics, semiconductors, radioactivity, nuclear physics and particles. Students must co-enroll in both lecture and lab to receive credit.

II: Course Objectives

Upon successful completion of PHYS 182L, the student will perform with a minimum accuracy of 80 percent, the following objectives:

- Apply the scientific method to experiments in the laboratory.
- Continue to develop procedures and observational skills as data is taken and gain a fundamental understanding of simple and complex apparatus used in the experiment.
- Apply analytical techniques, statistical analysis, graphical analysis, spread sheet data/recording to the experiments.
- Verify the theoretical ideas and concepts covered in lecture by completing a host of experiments.
- Take the time to discuss the procedure, the data, and the results of the experiment with the lab partner.
III: Course Linkage

Linkage of course to educational program mission and at least one educational program outcome.

**General Education Mission**: PHYS 182L is a general education class that promotes the development of knowledge, skills, and attitudes that will benefit students in their personal and professional endeavors.

**General Education Student Learning Outcome**: Students who successfully complete PHYS 182L satisfy the general education learning outcome of having problem solving, creative, and critical thinking skills. In addition, students will understand the methods of science and the role of science and technology in the modern world.

**Program Mission for AA/AS degree**: PHYS 182L satisfies the A.A. /A.S. degree mission by providing academic knowledge and skills for successful transfer to meet higher educational goals.

**Program Student Learning Outcomes for AA/AS degree**: Students who successfully complete PHYS 182L will know the subject matter appropriate to the emphasis of the degree.