

## Laboratory Syllabus

### Physics 231: Spring 2008

Laboratory meets on Thursdays in Jennings Hall 107: Section 01, 9:35am - 12:10pm; Section 02, 1:50pm - 4:25pm

Welcome to the laboratory/recitation (LR) for Physics 231. The LR is a very important component of the course. For it is here that you will learn some basic physics concepts from each other as you perform simple experiments, in traditional labs, and grapple with a number of challenging problems, in recitation periods. The LR is, therefore, an environment where you learn through discovery and practice. Given the open ended structure of the LR, we are not overly concerned whether or not you get the “right” answer to a given lab exercise or posed problem. Instead, we want you to gain physical insight into the physics concepts being addressed and build your problem solving skills - practical and mathematical. We would like the LR to be a place where physics comes alive, is less abstract, but ultimately compliments what is discussed in lecture. In order to achieve these goals, you will be expected to be ready to begin the day’s activities with only minimal guidance from your laboratory instructor. For the traditional lab activities, this means reading the assigned experiment and doing the pre-lab assignment before arriving at class. For the recitation periods, you should read the appropriate chapters in your text and have attempted to solve as many of the assigned problems as possible.

Twelve LR periods have been scheduled for the semester: 8 traditional lab exercises and 4 recitation periods. See the schedule below. There may be changes to this list, so consult the official schedule on-line at <http://home.southernct.edu/~enjalranm1/physics231/labsched.html>. You should bring the following to each LR period: *Physics Laboratory Manual*, 2<sup>nd</sup> Ed., by D.H. Loyd, a calculator, pens and paper, and your text book *Understanding Physics*. For the 8 standard laboratory exercises, a lab report is required and will consist of the pre-lab assignment, your data, noted observations, your calculations, and answers to any assigned questions. The pre-lab will be due at the beginning each lab period, and the remainder of the report will be collected at the end of class. Note, your instructor may either collect the pre-labs and grade them or just check them off in class. A word of warning, in order to have enough time to complete the lab assignment in the allotted time, you need to come to the lab prepared. Please always include the name of your lab partner on your report. In some cases, your laboratory instructor will request a group report instead of individual reports. For the recitation periods, there will be no pre-lab or final report to hand in. These periods are intended for you to work through and discuss, in groups, several problems from current, recent past, and near future material discussed in lecture. Many, but not all, of these problems will be taken from your assignments. You will be graded on participation, which to some degree will be reflected in the number of problems you can get through in the period. The recitation sections are meant to be low pressure affairs. But please do not dismiss them. A zero here counts just like a zero for a standard lab exercise. A major goal of these recitation periods will be for you to work through some of the more challenging problems for the course in a structured environment where you can get quick feedback, from your peers and the instructor.

**Please note, there are no make-up lab exercises or recitation periods.** If you miss a LR session, then that is the one that will be dropped in the calculation of your grade. **Finally, a passing score in the laboratory is  $\geq 60\%$ . If you do not pass the laboratory you will not pass the class.**

**Tentative Laboratory Schedule**  
**Physics 231: Spring 2008**

<b>Week</b>	<b>Dates</b>	<b>Lab</b>
01	01/24	First Week of Instruction - No Lab
02	01/31	Specific Heat Capacity & Heat of Fusion, Loyd # 23, pre-lab only, handout
03	02/07	Recitation
04	02/14	Electrostatic Observations & Mapping the E-field, Loyd #26, pre-lab only, handout
05	02/21	Measurement of Electrical Resistance & Ohm's Law, Loyd # 28
06	02/28	RC Time Constant, Loyd # 33
07	03/06	Recitation
08	03/13	No lab
		Spring Break 03/15 - 03/23
09	03/27	Magnetic Fields Due to Current Carrying Wires & Permanent Magnets, Loyd # 35, pre-lab only, handout
10	04/03	Recitation
11	04/10	Earth's B-field from the Tangent Galvanometer, no pre-lab, handout
12	04/17	Oscilloscope Measurements, Loyd # 38
13	04/24	Recitation
14	05/01	Focal Length of Lenses, Loyd # 41
15	05/08	Last Week of Instruction - No Lab

**Laboratory Instructors**

<b>Section:</b>	-01, Thursday, 9:35am - 12:10pm	-02, Thursday, 1:50pm - 4:25pm
<b>Instructor:</b>	Dr. Abe Bidarian	Dr. Lynn Westling
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