Physics 131 Lab
Spring 2005
Physics Department
University of Notre Dame

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Goals for this Course:

This is the first version of a new Introductory Physics laboratory course that has been developed with one goal in mind: the Physics lab should help students to understand the concepts presented in lecture, and to reinforce this understanding by experience and self-discovery.

Lab Materials: To each lab, you should bring
1. a copy of the Lab Manual for that day’s lab – this is your Data Sheet and your Lab Writeup, so make sure you bring it every time.
2. a calculator, just in case
3. some writing implement
4. possibly, your textbook or course notes if you think they will be useful

Web Site:

This course has a WebCT site on which lab manuals will be available, lab grades will be displayed, and other useful links will be available. Online Quizzes will also be taken through this site. The WebCT site can be found at https://webct.nd.edu. A mirror of that (minus the quizzes) can be found at www.nd.edu/~mhildret/phys131L/.

Procedures:

Labs will meet every other week at the assigned times on Thursday and Friday. A tentative schedule is provided below. For the Thursday Labs, those whose last name begins with the letters A-L will come on the “A” week, and those whose last name begins with the letters M-Z will come on the “B” week. Friday Lab sections will only meet on “B” weeks.

Each lab period will begin with a brief overview of that day’s lab which will include any introductory material you may need. Before coming to lab, you must read the Lab Manual and be familiar with the content and procedures of the lab. The lab periods are too short and some of them require too much thought for you to show up unprepared. To insure this, there will be an
Online Quiz which is based simply on the content of the Lab. Quizzes can be taken up until the time that Lab starts, so until 10:00 am on Thursdays and 1:00 pm on Fridays. Only one “end time” per day is possible online, so those of you with later labs will have to remember the earlier quiz end time. Quizzes and Lab Manuals will be available online on the WebCT site one week before the lab, so there will be plenty of time to absorb them at your leisure. In WebCT, there is a separate “course” for Thursdays and Fridays for the purposes of quiz management, but all of your grades will be kept in the “Central” Lab course WebCT page. Quiz grades will count 3 out of the possible 15 points available for each lab.

Due to the limited number of lab stations available, you may need to work in groups of three students. Remember, the labs are designed to help you understand the course material. If you allow your lab partners to do all of the thinking, you are missing out on the overall purpose of the lab. Each of you will turn in an individual lab writeup which will be graded.

Lab Writeups:

There are six computer-based “conceptual” labs in this course. For these labs, the Lab Manual will serve as the lab writeup. You can answer the questions posed in the spaces provided, attach the requested data, and turn in the worksheet.

Writeups should be turned into the boxes outside of NSH 288 before the next lab. You should keep the graded lab reports that are returned to you until the end of the semester.

Attendance: is mandatory. If you need to miss a lab, please let the instructor know immediately so that a makeup can be scheduled. Any makeup labs must be completed before April 25.

Grading: Labs will be graded out of 15 points, and count towards the 131 overall course grade.

Course Schedule:

Note: this is a tentative schedule. There may be some slippage or reorganization depending on what pace the lectures take. Note that there is one week, April 7& 8, where there is no lab. This is to try and synchronize the labs with the hourly exams and the lectures. This is possible because we are using Holy Week as a normal week as far as Thursday labs go. The 25th of March is Good Friday.

January  13 & 14  Lab 0  Introduction to Data Studio
         20  Lab 1  One Dimensional Motion (A)
         27 & 28  Lab 1  One Dimensional Motion (B)
February  3  Lab 2  Velocity, Acceleration, Forces (A)
         10 & 11  Lab 2  Velocity, Acceleration, Forces (B)
         17  Lab 3  Work, Energy (A)
         24 & 25  Lab 3  Work, Energy (B)
March     3  Lab 4  Momentum, Collisions (A)
         Spring Break
         17 & 18  Lab 4  Momentum, Collisions (B)
         24  Lab 5  Rotation (A)
         31 & April 1  Lab 5  Rotation (B)
April     7 & 8  NO LAB
         14  Lab 6  Simple Harmonic Motion (A)
         21 & 22  Lab 6  Simple Harmonic Motion (B)