The Course Notebook

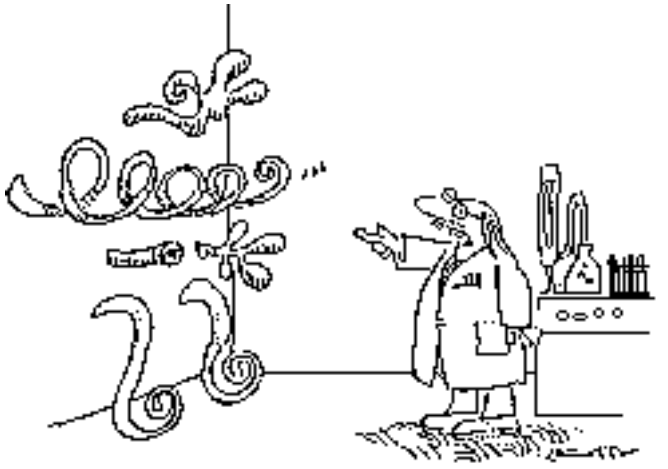
Introduction

You will be given a composition notebook on the first day. This is your course notebook. It will be used for both the lab and the lecture/demonstration/discussion part of the course. Because it will be collected quite frequently for grading purposes, the notebook must be dedicated to physics; there should be no Math work, Chemistry work, English work, etc. in the notebook. Not only will you use the course notebook to document your work on approximately 50 labs, you will also use it to keep notes on your learning, whether from textbook reading, classroom discussion or classroom lecture/demonstrations. The notebook will be a central learning tool.

What's It All About?

Physics is not a spectator sport. Students who approach physics in *passive mode* will be less thrilled and most disappointed by the course. Physics involves involvement! It demands a proactive approach to learning. It demands pondering, thinking, problem-solving, inquiring. To be successful, you will have to both *sort it all out* and *put it together*. The course notebook represents an attempt to assist you in the task of being involved, being active, and being thoughtful. It should help you to *sort it all out* and *put it together*.

The location in the room where you will be most *on your own* and most active will be the laboratory. You won't be alone in the lab, but you will be on your own - on your own to ponder a question, to adopt an approach to answer it, to collect some data and to sort out the meaning of what the data says about the answer to the question. Science *happens* in the lab. We ask questions whose answers are found through observation, measurement, and analysis. This is what science education should be all about - training students to think like scientists and to engage in the types of activities that scientists engage in.



"Go away! You're upsetting the laws of physics."

In this course, you will be active in the lab, involved in a question, pondering and thinking through results, and determining answers to questions.

Your course notebook will be part lab notebook. Each of the nearly 50 labs will involve the completing of a lab report. These reports are placed in your lab notebook. You will record your data, write your conclusions and discuss your results in your course notebook. General guidelines for reporting are found in a document titled **Lab Reporting Process**. You should read the document several times and tape it into the front of your lab notebook for ready and frequent access. Specific guidelines for each lab will be handed out on a unit-by-unit basis.

At the onset of the course, it is simply important that you understand that **the laboratory is sacred**. It is the place where it is guaranteed that the student becomes an active participant. It is the place where the student becomes engaged in doing science. At the onset of the course, you need to embrace the belief that *the answers are found in the back of the room* - in the laboratory. In the laboratory, you will be engaged in one of the most important activities of science – asking and answering a question through observation, measurement, and analysis.

Left Side - Right Side

Your course notebook will be part lab notebook and part *lecture* notebook. Lab and lecture. These are two entirely separate activities. One is very active; the other much more passive. One is a lot of labor; the other is a lot of oratory (at least on the part of the teacher). While every effort is made to make the back of the room and the front of the room seamlessly integrated, the activities that occur in each part are different in nature. In your course notebook, you will document your activities in the course – whether it be a lab in the back of the room or a lecture/demonstration/discussion in the front of the room. And because the activities are quite different, we will document it on different *halves of the page*. The right side of the page (*front* of each sheet of paper) will be reserved for labwork. The left side of the page (the *back* of each sheet) will be reserved for the front of the room (class notes, book notes, practice problems, discussion questions, etc.). When your course notebook is submitted for grading, the right side of the pages will be given careful scrutiny. Your lab grade in the course will be based on the reports which appear on the right side of every page.

If you are in the back of the room and making observations and recording measurement, you are doing right side work. Document this work on the right side of the page in one of the four sections of the lab – Purpose, Data section, Conclusion or Discussion of Results. If you come to the end of the page, you will turn the page over and continue recording your data and observations on the right side of the page (not the back of the page you were just writing on). Suppose you are in the front of the room and we are discussing the lab (*post-labbing*); and suppose you whish to take a note or two on what your teacher is saying; you would be recording those notes on the left side of the page. Your teacher's ideas and comments are never included in your lab report (the right side of the page); if you wish to annotate something he says, place it on the left side of the page. If your teacher starts the period by doing some boardwork – introducing or developing a topic, then you would be recording notes on the left side of the page.

Finding What You Need When You Need It!

As mentioned earlier, specific guidelines for each lab will be handed out on a unit-by-unit basis. The guidelines provide the title of the lab, the question that we are trying to answer and the purpose of the lab, and a short description of what the lab report should include. Read these descriptions carefully; failing to include what is requested in the description will result in a low grade on the lab. Occasionally, you will be provided with a diagram, a data table or a graph that will form the basis of the Data section of your lab. These will be provided on a unit-by-unit basis. When the time comes for the lab, you should cut them out and tape them into the Data section of your lab report. If it doesn't fit completely into your lab , simply tape one half of it into the notebook and fold the other half over so that it does fit. (Some of these things you could figure out on your own.) An effort will be made to keep copies of these pages on the course website for easy printing in the event that yours becomes lost. A day or two prior to the collection of lab notebooks, you will be given a scoring guide. This scoring guide identifies the point value of each lab and describes how the lab will be graded.

Post-Lab Check Ups

On occasion you will be given a short assessment on your activities in lab. The assessment will be in the form of a *post-lab checkup*. It will consist of a series of questions about the lab activity that will provide feedback to each of us as to the type of understanding that resulted from the lab. These post-lab check ups will typically be done in class at the beginning o the period. You will be able to use your lab notebook on a post-lab checkup.