

Inquiry Into Physics

Physics 115 sec 0101

Syllabus

University of Maryland

Fall Semester 2003

Where, When: Physics 3316, MTuW 2:00 to 4:00 PM

Instructor: Paul Hutchison

Office: Physics 1406

Phone: 301.405.5983

Email: hooch@wam.umd.edu

Office Hours: By appointment. I'm always happy to meet with you!

Teaching Assistants: Chris Fleming (chris_h_fleming@yahoo.com) and Katie Nelson

There are no prerequisites for the course, though enrollment in it is limited to Elementary Education and Early Childhood majors. You will receive four credit hours for completion of the course and may receive credit for only one of PHYS 115 or PHYS 117.

About this course:

Inquiry into Physics is primarily a lab course; there will be few lectures. The activities we do in lab will be the central elements of the course. By that I mean your understanding of the concepts we encounter will be grounded in the lab exercises we do and the discussions you have with your lab partners and your other classmates. Your learning will be the result of you *making sense* out of the phenomena we observe and *making sense* out of your peers' ideas.

Because of the critical importance of your participation to both your own learning and to the learning of your lab group and the class as a whole, I expect you to attend regularly. To encourage your regular presence I will take attendance. You are allowed two unexcused absences. You must provide documentation for any excused absences. **Your course grade will be lowered by two percent for each unexcused absence beyond the second.** If you are more than 15 minutes late for a class you will be counted as absent. However, you will be welcome to attend and profit from your work with the group.

Grading:

Your course grade will be determined as follows:

<u>Item</u>	<u>fraction of overall grade</u>
Exam 1	20%
Exam 2	20%
Exam 3	20%
Homework assignments	15%
Lab Notebook	10%
Class Participation	10%
Daily Sheets	5%

The grading scale I use is a score of 100-90 is an A, 89-80 is a B, 79-70 is a C, 69-60 is a D, and any grade below a 60 is an F.

Exam Schedule:

The course is divided into three sections, each of which will focus on a single topic. Each section will end with an exam on the material from that section. The three exams will be given on Oct. 1st, Nov. 5th, and Dec. 17th. The first two exams will be given during normal class hours and the third is scheduled for the time of our exam during finals week and will be from 1:30 to 3:30 PM.

Homework Assignments:

Homework will be assigned once a week. It will be a mixture of essays on your thinking, thoughtful questions to respond to, and problems for you to work through. Homework assignments will typically be emailed to you each Thursday night and it will be due in class on the following Tuesday. (There will be a few exceptions to that plan.)

Lab Notebooks:

There is no textbook for this course. Instead you will maintain a lab notebook that will serve some of the purposes of a textbook. It must be a three ring binder. In the notebook you should have lots of blank paper so you can record your observations, the observations of your peers, your theories, the theories of your peers, and the evidence for and against each theory. You should also include a copy of each graded homework assignment in your lab notebook. Your notebook will be collected and graded three times during the semester. In grading them I will use the following scheme:

<u>If you have:</u>	<u>You get these points:</u>
• 3 ring binder containing your notes from class, graded homework, and extra blank paper.	30
• At least partial notes for most lab exercises (not carefully labeled, hard to figure out what it means, random numbers written down without labels)	30
• Most lab activities documented clearly in a detailed way	20
• All lab activities documented clearly <u>and</u> evidence that thought went into what was written, not just writing down what was said in class	20

It is important that you keep a neat, careful notebook because you have no textbook. I strongly suggest that after class you get together with a few of your classmates and review your notebook, make it neat, and make a list of questions of things that confuse you. You will be allowed to refer to these materials during exams. Furthermore, you may find the notebook useful when you begin to teach science to your own students.

Class Participation:

In this class you are responsible not only for your own learning but also for assisting in the learning of your classmates. I expect you to contribute meaningfully and thoughtfully to our many whole class discussions and to the work of your lab group. Half of the class participation grade will reflect your contribution to class discussions and the other half will reflect your participation within your lab group.

Daily Summary Sheet:

At the end of each class period I will give you time to fill out a daily summary sheet. These sheets will be turned in at the end of each class and returned at the following class meeting. They will be checked to verify you are completing them thoroughly, and you will be given full credit if they are. The returned sheets should be kept in your lab notebook.

Academic Integrity:

The integrity of your degree is important to me. Therefore I strongly support the Code of Academic Integrity of the University of Maryland. What does this mean in a collaborative environment like the one we have in this class? I expect you to consider yourselves a part of a learning community, so it is quite appropriate you seek help as you do your various assignments. You will be most successful if you work with other students both in and out of class. This does not, however, mean identical reports are in order. You are expected to respond in your own unique style, even when the conclusions were reached through group efforts.