Physics 204

Foundation of Physics (Spring 2003)

Text: *Fundamentals of Physics* (6th edition) by Halliday, Resnick and Walker

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Office Hours (Taylor 109C) -
T: 3 - 4 p.m. F: 2 - 3 p.m.

Tentative Schedule for the semester:

Week	Material	
1	Ch 17	
2	Ch 18	
3	Ch 35	
4	Ch 36	
5	Ch 37	(Test #1 on 2/10)
6	Ch 22	
7	Ch 23	
8	Ch 24	
9, 10	Spring Break	
11	Ch 25	(Test #2 on 3/28)
12	Ch 27	
13	Ch 28	
14	Ch 29	
15	Ch 30, 31	(Test #3 on 4/25)
16	Ch 31, 32	

Final Exam is on Monday, May 5th at 7:00 p.m.

Grades

Final %	Grade
90-100	A- to A
80-90	B- to B+
etc.	
S	C-

25% labs
20% final exam
15% homework & quizzes
40% tests
2 - 3% XC homework

Tests and final exam should be taken at the scheduled time. Only people with exceptional excuses will be allowed to take them at another time. Homework assignments should be handed in on the problems than the ones required. Quizzes will be given unannounced over material that has been covered in class. Quizzes may not be made up under any circumstances. In home works, quizzes and tests, it is not enough to show just the answer. You will have to show your work (all the relevant steps) to receive full credit.

Cheating on a test or a quiz, or any act of academic dishonesty is a serious breach of the Scot Honor Code and is grounds for an F for the entire course.

WAVES AND OPTICS
Assignments for 1/13/03 to 2/14/03

WEEK	DATE	READ FOR CLASS
1	Jan 13 M	
	Jan 15 W	Ch 17.1 - 17.7
	Jan 17 F	Ch 17.8 - 17.12 (omit 17.10)
2	Jan 20 M	Ch 18.1 - 18.4
	Jan 22 W	Ch 18.5 - 18.7 — Homework Set #1 due
	Jan 24 F	Ch 18.8
3	Jan 27 M	Ch 35.1 - 35.3
	Jan 29 W	Ch 35.4 — Homework Set #2 due
	Jan 31 F	Ch 35.6
4	Feb 3 M	Ch 36.1 - 36.3
	Feb 5 W	Ch 36.4 – 36.5 — Homework Set #3 due
	Feb 7 F	Ch 36.7
5	Feb 10 M	**Test #1**
	Feb 12 W	Ch 37.1 - 37.2
	Feb 14 F	Ch 37.6 – 37.7 — Homework Set #4 due

HOMEWORK ASSIGNMENTS

HW Set #1: Chapter 17

Questions: 4 and 9
Exercises & Problems: 4E, 6P, 14E, 18P, 20P, 26E, 41P *Extra Credit*: 48P

HW Set #2: Chapter 18

Questions: 3, 11 and 12
Exercises & Problems: 6P, 9E, 14P, 20E, 31E, 40P, 50P *Extra Credit*: 16P

HW Set #3: Chapter 35

Question: 9
Exercises & Problems: 6P, 9E, 10P, 18E, 26P

HW Set #4: Chapter 36

Questions: 1, 6 and 10
Exercises & Problems: 8P, 10P, 12E, 14E, 37E, 39P – part (a)

HOMEWORK PROBLEMS

Physics is fun, but it can be difficult. Upon the first reading or listening to a lecture, you may not understand all the material. You have to work through the material, work out examples in the text *for yourself* and generate questions and ask them. There are no dumb questions. Do not be a passive learner! If you do not understand something, feel free to come and see me outside of class or seek a tutor. I have limited sympathy for someone who waits until the day before the test to tell me "I just didn't understand it."

You can discuss the homework problems with other students and are allowed to give (or receive) hints for the solution, plan of attack or the key principle. You are *not* allowed to copy any part of a problem from another student. The work turned in should represent your own understanding of the problem. An assignment showing evidence of cheating or copying will receive a zero grade. You are encouraged to work together on homework. Discussion between students is a valuable learning tool.

Be sure to write the number of the problem and the chapter, so they can be easily seen. If there is more than one part to a problem, label them accordingly.

Show your work clearly! Write the equations you use to solve a problem. Remember to include the units as you are working the steps. This will help you to complete the problem with appropriate units.

Box your answers $\Rightarrow$ $\boxed{q = 1.6 \times 10^{-19}\ C}$

When you complete the assignment, fold the paper, write you name, the date you turned the assignment in, and your class. Homework is due at 9 am in class on the day of the assignment. If you are unable to attend the class due to illness, it is your responsibility to make sure that your solutions get to the class and are handed in on time. Late homework <u>will not be accepted</u>.

LAB SCHEDULE

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Week	Week of	Experiment
1	1/13	**SEMCO ****
2	1/20	Standing Waves
3	1/27	Beats
4	2/3	**REVIEW #1**
5	2/10	Ray Optics
6	2/17	Wave Optics*
7	2/24	No lab
8	3/3	Coulomb Experiment
9 & 10		SPRING BREAK
11	3/24	**REVIEW #2**
12	3/31	Ohm's Law
13	4/7	Multiloop Circuit
14	4/14	Ampere Lab
15	4/21	**REVIEW #3**
16	4/28	Faraday Experiment **& SEMCO ****

*** Formal Write-up**

****Survey of Electricity, Magnetism, (DC) Circuits and Optics**

LAB REPORTS

A good lab practice is to do everything methodically. Before you start an experiment, read the instructions, check all the equipment provided and make sure you understand what everything is and what you are supposed to do. If there are special safety precautions, be sure to follow them. Repeat measurements when possible; the more the number of observations, the better the accuracy of your result.

For an experimentalist, it is important to make a permanent record of the work as the experiment proceeds. The results must then be presented in an intelligible form with an assessment of their quality, to be read by other people. Once the result is obtained, compare it with standard or theoretical values.

All the data taken during a lab session should be recorded on the extra sheets attached to each lab instruction immediately. You are not allowed to use a pencil other than to draw a graph or diagram. If you find that a set of data you recorded is incorrect, neatly draw a line through it and write "to be repeated" or "incorrect" beside it. <u>You are not allowed to enter data on loose sheets or pieces of paper to be copied later into your lab manual</u>. Try to be as neat as possible while you are entering data directly into your lab manual.

You can discuss with your partner the method of taking data, sources and estimation of errors, suggestions for improvement of data, and compare the final results. **You are *not* allowed to copy your lab partner's calculations, answers or conclusions.** You can work together but your report should be written by you!

Before your first lab, please stop by Jackie Middleton's office (Taylor 109A) and buy a Lab manual. You will write a two-page report for all the labs, except for lab 4 (identified by *as the formal report in your lab schedule). Your report should summarize the theory, provide relevant equations, procedure and your findings of each lab. You will staple your graphs and data tables to the report (or import them into your Word file). Instructions and guidelines will be given for the writing of the formal report.

Please check with your lab instructor as to when the lab reports are due.