

Phys 122 –TT  
Fall 2004

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Title: Fundamentals of Physics II

Lectures: Tu, Th 12:30- 1:45 [Phys 1410]

0201	W 9	Phys 1402
0202	M 10	Phys 1219
0203	Th 8	Phys 1219
0204	W 2	Phys 4220

Textbook: Serway/Faughn  
College Physics, 6<sup>th</sup> Edition  
Thomson Brooks/Cole

Math Background: As you know, this is the second semester of a two-semester course on the fundamentals of Physics. We will not use calculus. However, algebra and trigonometry are used throughout. Review again your high school knowledge thoroughly. If you need help, get it as soon as possible. As described below, I am always available. Never hesitate to let me know if you are experiencing difficulties. The only way to alleviate a problem is to address it immediately. So do me (and yourself) a favor by discussing it today. The textbook provides an excellent skeleton on which to build the course. We will, of course, stray from it quite often. I shall make it a point to hand out notes in the class to supplement the text. In any case, if you miss a class, I invite you to borrow my class notes. It is useful to remember that the Exams are based on lecture content, so please take heed. God bless you and let us look forward to an exciting time together.

Homework: Weekly homework problems are listed on the attached schedule. Do them. Although we will not collect and grade your homework, there will be several quizzes using homework problems directly. Also, the hourly examination will have somewhat similar problems. The bottom line is: if you cannot do the homework, you cannot expect a good grade

Solutions: Will be posted each week in glass cases outside the lecture halls and in reserved sections of the Engineering Library (Math Bldg).

Tests: a) There will be three (3) examinations, each lasting a full period. Dates are in the attached schedule.

b) Ten (10) 10-minute quizzes during class (Q on schedule).

c) Avoid make-ups.

d) The final exam is scheduled for Fri., Dec. 17, 2004, from 1:30–3:30 PM. You cannot pass without taking the final.

Laboratory: The experiments in the laboratory are an integral part of this course. Ten (10) experiments are scheduled. All must be done. You cannot pass this course unless you do every experiment, and submit a report.

Grading: Your grade is figured out as follows.

Best 8 of 10 quizzes	100
Lab Reports	100
Best 2 of 3 “hourlies”	200
Final Exam	200
*Discussion	≤50 (Bonus)

Extra Help:

a) The instructor is available for discussion at all times. I am usually in my office (Z-2331) or laboratory (Z2221) from about 9:00 AM to about 6:00 PM, Monday through Friday. Feel free to walk in. If you desire an especially extended visit, call 56144 or 56159 to ensure that I have a time slot free. If you have any difficulty at all, never hesitate to drop by. Also I keep a record of your visits. You can earn up to 50 points (or 10 percent of your earned grade points) by showing up with your questions.\* You may call me at home (301-345-5308) but not later than 10 PM.

b) T. A's will post their office hours

c) Slawsky Clinic is an excellent (free) tutoring service. It is staffed by very dedicated physicists who can help you improve your problem solving skills. Do take advantage of this highly acclaimed feature of the physics department.

SCHEDULE (Tu/Th)

<u>Date</u>	<u>Chapter</u>	<u>Problems</u>	
<b><u>Aug/Sept</u></b>			
Wk 1	Tu 30 Th 2	Review 121, 13 13, Waves	Diagnostic 13-38, 41, 42 13-44, 46, 48, 51, 52, 53, 60
Wk 2	Tu 7 Th 9 (Q)	13/14, Wave/Sound 14, Sound	13-64, 65, 68; 14-6, 7, 10, 12 14-15, 17, 19, 21, 26, 27, 30
Wk 3	Tu 14 Th 16 (Q)	14, Sound 15, $\vec{E}$ field (coulomb)	14-36, 39, 44, 46, 49, 53 15-3, 6, 10, 13, 15, 19, 22
Wk 4	Tu 21 Th 23 (Q)	15, $\vec{E}$ field (coulomb) 15, $\vec{E}$ field (coulomb)	15-24, 25, 27, 28, 33, 36 15-38, 40, 43, 45, 46, 50, 57
Wk 5	Tu 28 Th 30	16, El. Energy <b>EXAM I</b>	16-3, 7, 9, 11, 15, 19, 23
<b><u>October</u></b>			
Wk 6	Tu 5 Th 7 (Q)	16/17, El. Energy-cap 17, Current	16-27, 31, 37, 44, 49, 50, 54, 56 17-1, 5, 8, 15, 19, 21, 29
Wk 7	Tu 12 Th 14 (Q)	17/18, Resist. /D.C. circ 18, D.C. Circuit	17-33, 39, 41, 45, 52, 62, 18-1, 3 18-5, 7, 9, 12, 13, 17, 21, 30, 33, 36, 40
Wk 8	Tu 19 Th 21 (Q)	19, $\vec{B}$ field 19, $\vec{B}$ field	19-2, 5, 9, 13, 18, 21, 23, 25 19-29, 33, 37, 41, 46, 49, 56
Wk 9	Tu 26 Th 28 (Q)	20, Induction $E_{NC}$ 20, Non Coulomb $\vec{E}$	20-3, 7, 10, 13, 17, 21, 25, 30 20-33, 39, 45, 46, 49, 51, 52
<b><u>November</u></b>			
Wk 10	Tu 2 Th 4	21, A.C. Circuits <b>EXAM II</b>	21-3, 7, 11, 15, 17, 19, 21
Wk 11	Tu 9 Th 11 (Q)	21, EM Waves 21/22, EM Waves/Optics	21-23, 27, 31, 34, 39, 42, 44, 47 21-48, 49, 52, 54, 63, 22-2, 5, 6
Wk 12	Tu 16 Th 18 (Q)	22, Geom. Optics 22/23, Geom. Opt. /Mirrors	22-9, 17, 19, 24, 32, 37, 38 22-41, 42; 23-3, 5, 9, 11, 13

Wk 13	Tu 23 Th 25	23, Mirrors/Lenses <b>THANKSGIVING</b>	23-15, 17, 19, 23, 25, 27, 31, 35
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**November/December**

Wk 14	Tu 30 Thu 2	23/24, Lenses/Wave Optics <b>EXAM III</b>	23-39, 44, 45, 46, 58
	Tu 7 Th 9 (Q)	24, Wave Optics 24/ Review	

**FINAL EXAM:**      Friday – December 17, 2004      1:30-3:30 P.M.