

# Physics 262

General Physics: Vibrations, Waves, Heat, Electricity, and Magnetism  
Fall 2002

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Phone (301)-559-2069 X56192, (301)-927-5486  
Textbook: Serway and Beichner, Physics for Scientists and Engineers,  
Vol. 1 (wt. 4 lb.) & 2, (wt. 4.5 lb.) 5<sup>th</sup> Edition ( Pub.Harcourt)

Class Time (Lecture): Mon., Wed. Fri.. 3:00 – 3:50 P.M.

Room: Z1412

Discussion:	Section	Day/Time	Room	TA
	(0301);	Th. 3:00 – 3:50 P.M.;	3301 (Phys.)	Jon Miller
	(0302);	Tu. 10:00 – 10:50 A.M.;	3301 (Phys.)	Baylay
	(0303);	Tu. 12:00 – 12:50 P.M.;	3301 (Phys.)	Jon Miller
	(0304);	Wed. 9:00 – 9:50 A.M.;	4208 (Phys.)	Baylay
	(0306);	Wed. 8:00 – 8:50 A.M.;	0405 (Phys.)	Jon Miller
	Honors:	Wed. 1:00 – 1:50 P.M.;	0405 (Phys.)	

## Lecture Schedule

	Mon./Wed.	Fri.	Assignment from Serway and Beichner *
September	4	6	Chap. 13
	9	13	Finish Chap.13; Chap. 15**
	16	20	Chap. 16; Start Chap. 17**
	23	27	Finish Chap. 17; Review
	30	Oct. 4	Chap. 18**
October	7	11	Chap. 19
	14	18	Chap. 20
	21	25	Chap. 21; Review
	28	Nov. 4	Chap. 22
November	6	11	Chap. 23
	13	18	Chap. 24
	20	22	Chap. 25; Review
	25/27		Chap. 26
		29	Thanksgiving holiday
December	2	6	Chap. 27
	9	13	Chap. 28; Review

- There is too much material to cover in one semester. Therefore, some sections in specific chapters will be omitted. Sections to be omitted will be announced in class.

\*\* Not all sections will be covered. Relevant sections will be announced in class.

### Exam Schedule<sup>#</sup>

Exam 1	Monday, 30 September	Chapters 13, 15-17
Exam 2	Friday, 25 October	Chapters 18-21
Exam 3	Monday, 25 November	Chapters 22-25
Final Exam	Wednesday, 18 December (1:30-3:30 P.M.)	Chapters 13, 15-28

<sup>#</sup> All exams are for 50 minutes and are cumulative. The best two out of three “hourly” exams will be counted in determining your grade for the course. Makeup exams will be given only for a student with a valid documented excuse (doctor’s note accident report, funeral notice, *etc.*) If you know ahead of time that you will miss an exam you must notify me before the exam. If you miss an exam due to an emergency, let me know as soon as possible. I will be flexible for those with valid excuses who have given timely notification. Makeup exams will probably be given during final week. Note that you may use your one dropped hourly exam as a makeup substitute in cases in which you do not have a documented excuse.

### Course Description

This course is the second semester of a three-semester course in introductory physics. The subjects consist of three “units”: 1) Oscillations and Waves; 2) Fluids and Heat; 3) Electricity through dc circuits. This is a calculus-based sequence and makes extensive use of the material in Math 140 and 141. The course will stress a qualitative understanding of physical phenomena as well as quantitative understanding by problem solving. The lectures will concentrate on covering the major topics and providing insight into the material. Students are responsible for the assigned material, even that not covered in the lectures. Students are also responsible for material that is discussed in class but is not in the textbook, especially if the subject is emphasized during the lecture. To get the most out of the lectures, it is imperative that students read the text before class.

**The Laboratory, Physics 262A, is part of this course. You must register for the laboratory separately, but the laboratory is a required component of this course.**

### Homework and Quizzes

Part of your homework will be based on an internet system, WebAssign. Details will be given later. The problem with WebAssign is that it checks only your answer (normally numerical or T/F) and does not check your method. That is, there is no way with WebAssign for you to get corrections on your approach to the answer. For this reason, one or more additional homework problems will be assigned in your discussion section.

My tentative approach to homework assignments and schedules is as follows: At the beginning of each week WebAssign problems for the week will be posted via WebAssign. You should work these problems to completion and submit your answers to WebAssign. You will learn immediately if each answer is correct or not. You may have 4-8 additional attempts to get the correct solution and you will be graded on you final answers. Since you have at least 5 possible attempts, there is no reason to get less than 100% on your WebAssign homework.

Additional homework will be assigned in your discussion section; this homework will be due at your discussion section the following week. One homework problem out of each homework set will be graded.

Homework solutions in a ring binder will be on reserve and available for study at the Engineering and Physical Sciences Library. Another set will be posted on the bulletin board inside one of the wall cabinets that is just outside your lecture room (1412). You may make a xerox copy of the solutions at the Library, but, if any solutions are missing from the ring binder, I will no longer provide solutions in the library.

### Help

Help in understanding concepts and solving problems can be obtained from several sources: 1. Discussions with me after class or in my office. I encourage you to stop by my office. You can stop and see if I am available or you can telephone to set up a meeting time. I think it is helpful to study with others and you may come as a group to my office to ask questions. My regular office hours will be announced later. 2 Your recitation/discussion class. At the class you may ask questions of your TA or you may go to his office hours, which will be announced later. 3. The Slawsky Clinic, which is on the first floor of the Physics Building.

### Grade

Your grade will be determined as follows:

Final exam	25%	Two out of three hourly exams	30%
Homework (including WebAssign)	20%	Laboratory	25 %

Active class participation will improve your chances for a higher grade.

### Homework Assignments

Chapt. 13	WebAssign Problems 1, 3, 11, 21, 23, 28, and 33 Due 16 September 2002
Chapt. 15	WebAssign Problems 1,6,11,17,23,33,41 Due 23 September 2002
Chapt. 16	WebAssign Problems 3,6,8,10,16,22,25,30,38,43 Due 27 September 2002
Chapt. 17	WebAssign Problems 1,3,9,14,18,26,33 Due 9 October 2002 – Skip Section 17.5 on Doppler Effect except for definitions.
Chapt. 18	WebAssign Problems 4,7,10,13,18,22,29,41,50 Due 11 October 2002 – Skip Sections 18.6 & 18.8.
Chapter 19	WebAssign Problems 2,4,9,12,22,27,34,50 Due 16 October 2002
Chapter 20	WebAssign Problems 4,11,15,21,28,36,38,44,50,51 Due 21 October 2002
Chapter 21	WebAssign Problems 3,7,16,21,26,30,35,37,40 Due 6 November 2002
Chapters 22-28	To be announced in class.