Physics 135a (Tear-off sheet)

Summer 2004

Dr. Christian Römelsberger MTWTh 10:00am-12:00noon SLH 102

Name (Printed): _____
Last First MI

Name (Signed): _____

USC e-mail addr: _____

University ID Number: _____

Local Address: _____

Local Telephone: _____

Major: _____ Class: _____

Highest Math Class Completed: _____

Professional Goal:

Medicine __; Dentistry __; Pharmacy __; Physical Therapy __; Other __

Physics 135aL Laboratory Section: days _____; hour _____

Im registered but I dont know the day or time: _____

If you are not registered in a laboratory section, did you complete the 135aL Laboratory previously? Yes __ No __

If yes, do you have permission from the undergraduate office to use the Laboratory credit this semester: Yes __ No __

Contact the lecturer to be sure that your Lab grade is properly recorded

Comments:

Physics 135a Summer 2004
Course Information

Welcome to Physics 135a! This is the first course in the 2-semester Physics series intended to meet the needs of students majoring in the Natural Sciences other than Physics, Chemistry, or Engineering and who are preparing to enter one of the health oriented professions. The subject matter of this course includes classical mechanics, thermodynamics, sound, and fluids. The goal of the course is to teach you how to approach and solve physical problems and how to develop an intuition for the important physical properties which affect a given situation.
The sequence of courses 135a and 135b is considered as a whole. In the succeeding course you will be expected to make use of material covered in this course.

1 Course Instructor

- Instructor: Dr. Christian Römelsberger
- Office: SSC 202
- Office Hours: TW 12:00-1:00pm
- Phone: 213-740-1145
- e-mail: roemel@usc.edu

2 Course Materials

2.1 Required for Lecture

Serway/Faughn, College Physics, Sixth Edition, Thomson, Brooks/Cole, (2003)

2.2 Required for Laboratory

The lab manual is sold only in KAP-B16 (checks or money orders only).

3 Guide Lines

3.1 Prerequisites

The prerequisite for this course is a working knowledge of elementary algebra and trigonometry. Your text has a brief review in appendix A of your text.

3.2 Registration

Your registration for this course consists of three separate parts: a lecture, "quiz section" and laboratory. You must register for each of them. (The only exception is that if you have previously completed the laboratory and have received permission to carry its grade into the current semester, then you would register only for the lecture and the "quiz section". The quiz section is reserved for the course and laboratory midterms.

Attention!

Students who are repeating Physics 135a must obtain written permission from the Undergraduate Physics Office (SGM 407) in order to be excused from repeating the laboratory. A copy of the written memo must be turned in to the professor during the first week of classes.

3.3 Disabilities

Students who need to request accommodations based on a disability are required to register each semester with the Office of Disability Services and Programs (DSP). They are found at STU 301 and their phone number is 740-0776. A letter of verification to the instructor from the DSP is needed for the semester you are enrolled. If you have any questions please contact the instructor and the DSP.

4 Grading

Your grade will be determined according to the following distribution:

80% Lecture:
- 15% Homework and Lecture Quizzes
- 25% Midterm

40% Final Examination
20% Laboratory:
20% Laboratory

In order to receive a passing grade in the course (D-above) you must receive a passing grade in <u>*both*</u> *the Lecture and the Laboratory portions. In addition, you must receive a passing grade on the final examination.* Each semester a few students fail to complete the laboratory experiments and consequently fail the entire course – *please dont let this happen! If you miss a lab, make sure to arrange a lab make-up as soon as possible with your T.A.*

4.1 Homework

Homework is assigned each week and is due on the first class meeting of the following week. The homework is turned in *at the beginning* of the lecture, *not at the end* of the day that they are due. Please turn in your homework on time, because *late homework will not be accepted*. Please make sure to **staple together multiple sheets**. *All work submitted as loose pages, will not be graded.*

We expect that it will take several hours to complete each of your homework sets. The sets are the central way to master the course material. "Understanding" physics does not mean knowing the words and reading the book. "Understanding" implies development of the necessary skills to solve physics problems you have not seen before.

Homework problems will range from the trivial to the difficult. *Midterm and final examination questions will resemble (and in isolated instances may be identical to) many of those problems.* Experience shows a strong positive correlation between total homework scores and total exam scores. For these reasons we urge you to attempt every homework problem, even if you are not able to complete each one.

We encourage you to work with friends on deciding how to do the homework. This does not imply simply copying solutions from each other. You can learn a tremendous amount by cooperating and explaining to each other how to analyze a problem, but everyone must turn in their independently worked solutions.

4.2 Lecture Quizzes

There will be several quizzes this semester. The quizzes will be in the second hour of the lecture and may not be previously announced. The quiz will consist of one or more problems covering material recently covered in the lecture or the homework.

4.3 Examinations

There will be a midterm exam and a final exam. The midterm will cover material from the first half of the course and the final exam will be cumulative over the whole course.
Please note the dates of the midterm and final examination (see section 6). These examinations are during the usual class time 10am-12noon. No exceptions to these dates and times are allowed. If you have a conflict, please attend to it immediately.
There will be no make-up exams given for any tests in this course. A missed exam will prevent you from passing unless you have approval from your professor before the exam because of an extreme emergency.

4.4 Laboratory

Physics is an experimental science and therefore the laboratory is a very important part of this course. Physics 135a laboratories *will meet* during the first week of classes. At each lab session you will have in the laboratory either a discussion meeting or an experiment. The laboratory policies are clearly spelled out in the introduction to the Lab Manual. Read it carefully. Read the description of the experiment carefully *before* coming to the laboratory. This will help you to understand the experiment and you will be more efficient. You must complete all laboratory assignments at the "Pass" level. Then your laboratory grade will be derived from laboratory quizzes, performance, the lab midterm, and the lab final. *As noted previously, it is necessary for you to pass the laboratory portion of the course in order to pass the course as a whole.* **And to pass the lab you must complete all experiments**.
Questions concerning the laboratory should be referred to the Lab Director, Gokhan Esirgen (KAP B19, e-mail: esirgen@ usc.edu, phone: 740-1138)

5 Assistance

You have a variety of opportunities for assistance available to you. Please seek it immediately if you are having difficulties with this course. We list some of these below.

5.1 Lecture

Don't underestimate the value of questions during the lecture period. In large lectures, many students are reluctant to pose questions, which they fear may seem silly to either, their peers or the instructor. Almost always, if one student asks a question, there are several other students who have been bothered by the same question. Often such questions tell the instructor what is not clear to the students. A portion of each lecture will be devoted to illustrative examples including some from the assigned homework. Some of them may also appear later on some of the exams.
If for any reason you want to see your course instructor privately, their office hours are shown in section I. of this syllabus. If you are unable to make those times, please feel free to make an appointment convenient for both you and your instructor.

5.2 Laboratory TA's

All laboratory-teaching assistants are graduate students, usually pursuing a Ph.D. in Physics. They are all capable of answering any questions you have regarding subject material. Usually your lab TA can answer questions immediately, either at the beginning or at the end of the lab period. However, some problems you pose may require some additional thought. In either event, you should regard your TA as a resource not only for the laboratory, but also for the lecture-related questions. Your lab TA will also have office hours for assistance.

6 Physics 135a Course Schedule

Class	Date	Chapter Assignment and Subject
1	5/19	Ch. 1: Introduction, Units, SI System, Trigonometry
2	5/20	Ch. 2: Motion in One Dimension I
3	5/24	Ch. 2: Motion in One Dimension II
4	5/25	Ch. 3: Vectors and Two-Dimensional Motion I
5	5/26	Ch. 3: Vectors and Two-Dimensional Motion II
6	5/27	Ch. 4: The Laws of Motion I
7	6/1	Ch. 4: The Laws of Motion II
8	6/2	Ch. 5: Energy I
9	6/3	Ch. 5: Energy II
10	6/7	Ch. 6: Momentum and Collisions I
11	6/8	Ch. 6: Momentum and Collisions II
12	6/9	Midterm Exam
13	6/10	Ch. 7: Rotational Motion and the Law of Gravity
14	6/14	Ch. 8: Rotational Equilibrium and Rotational Dynamics
15	6/15	Ch. 9: Solids and Fluids
16	6/16	Ch. 10: Thermal Physics
17	6/17	Ch. 11: Energy in Thermal Processes I
18	6/21	Ch. 11: Energy in Thermal Processes II
19	6/22	Ch. 12: The Laws of Thermodynamics
20	6/23	Ch. 13: Vibrations and Waves I
21	6/24	Ch. 13: Vibrations and Waves II
22	6/28	Ch. 14: Sound
23	6/29	Final Exam