

PHYSICS 103 SYLLABUS - Fall '94

Exams

There will be three one hour exams, they will be held at 7:15 pm, Thursday Sep 29, Thursday Oct 27 and Thursday Dec 1.

IF YOU HAVE A CONFLICT WITH THIS EXAM SCHEDULE DROP THE COURSE NOW!

There will be no early, late or makeup exams. If you miss an exam, the average of your other exams will be substituted for the missing score provided that you have a written excuse from a physician, Dean or academic advisor, or a substantiated unforeseen occurrence.

All needed formulas and constants will be provided on the exam cover sheet.

Homework

The homework is due in class on the due date shown on the syllabus (usually Monday). Solutions to the homework will be in the reserve shelf in the Physics Library on the day following the due date.

Labs

You must complete all Labs. If you have to miss a lab you may go to the scheduled makeup labs or to any other lab to make up a lab you had to miss; make arrangement ahead of time with your TA or come to the weekly instructors meeting Friday at 5:00 pm in room 4421 Sterling. If you have failed to make up one missed lab, your course grade will be decreased by half a grade point (e.g. A \rightarrow AB); two missed labs will decrease your grade by one grade point (e.g. A \rightarrow B), etc. You must have a bound quadrilled notebook for your laboratory work. You may not take the lab notebook out of the laboratory.

Final Grade

The final grade will be computed in the following way: homework and labs 20% , final exam 20%, the three one hour exams are normalized and performance weighted: the better scores count most. They will count 25 %, 20 %, 15, in order of score.

Office hours

Your teaching assistants will have office hours in room 4256 Chamberlin Hall, (the schedule will on the door of room 4256 Ch), you may go to the office hours of any TA.

Prof Ugo Camerini(3412 St) and Prof. Willy Haerberli(1506 St) will have office hours on Mon 8:50 and Tue 2:25.

TO PHYSICS 103 TEACHING ASSISTANTS
FIRST STAFF MEETING

In order to find a convenient time for our weekly staff meetings please bring to the first staff meeting the following information:

- Your name, your office number, your office telephone number and your home telephone number.
- A Card with your schedule: the discussion sections and labs you teach, the classes and seminars you will attend.

Thank you

Ugo Camerini Willy Haeberli

PHYSICS 103

TA Guidelines-Please read and comment

We are instructing a large number of students, and we must try to maintain a coherent and fair system of teaching and grading. Team work is only possible if there is lots of communication. I propose the following guidelines:

STAFF MEETINGS

- These weekly meetings will last approximately 1.5 hours. We will discuss problems and ideas about the lecture and discussion sections, as well as the laboratory experiments.
- Attendance at the weekly TA meetings is mandatory; it is essential to maintain a coherent teaching agenda for the team as a whole.
- All quizzes and handouts should be brought to the meeting and kept in a binder so all can benefit from each others experience.
- Exam study questions should be prepared in advance by the TAs and the professors and distributed to all sections .

DISCUSSION SECTIONS

- The TA should give classroom quizzes on Sep 15, Oct 13 and Nov 10; quizzes should not take longer than 15 minutes (two simple problems), one of the problems should be very similar to an assigned homework problem.
- The TA should not endeavor to give material additional to what was given in lecture, but should clarify the principles of the lecture material using the same notation used by the lecturer. The discussion section should be used to discuss the homework, to explain how to go about setting up the physics problem, but not to just go ahead and do it. Again you should feel free to discuss the homework during consultation hour but not do it.
- Each week two of the assigned homework problems will be selected for grading, the TA should grade these in the following way: 0 for no work; 3 for a good try; 6 for a correct (almost) answer. The remaining homework problems should be check marked to show that the TA is seeing that all were tried and a grade 1 should be assigned to each. Homework should be picked up on Monday and returned in discussion section on Thursday. Homework solutions should be posted in the library every Tuesday; a schedule will be made so as to distribute the work evenly among TAs.
- The TA will keep a record of the lab grades and of the discussion session quiz and homework grades using the "official" forms provided. TAs will produce a number grade (0 to 100), for each student at the end of the semester. I suggest the relative weights should be: lab 40 % ; quiz 40 %; homework 20 %; the lab grade should contain some subjective estimate of the students industriousness. The average of your discussion section grades should be 75 .

Students get uptight if they know that the number grades given in another section are higher. Stress the fact that grades are normalized at the end. Very little weight should

be given to the homework, since students do not necessarily do it by themselves, but the students should **NOT** be told this.

ATTENDANCE

- T.A.'s are required to attend all lectures and should sit in the front three or four rows; this has these purposes:
- It allows the TA to know what was done in lecture, the notation used, and the parts that were done too quickly etc.
- The TA knows the way in which something was explained in lecture and can try to improve it, or use a different tack.
- During lectures, the TA's should address the lecturer, correcting blackboard errors, or asking what they consider is a question a student should ask; this encourages students to ask questions during the lecture.
- TA's are required to proctor all exams and to collect the exam papers of students in their own discussion sections.

LABS

- All TA's must do the lab in advance, this includes TAs that have previously taught Physics 103
- A 5 min. lab quiz should be given at the beginning of every lab; the quiz is to be taken using the lab notebook not the lab manual; it should consist of one or two simple questions that a student that has understood the lab work of the previous week can answer easily. This will provide a large fraction of the basis of the lab grade.
- In the laboratory the TA may give a 5 min introduction to the exercise but should not spend too much time doing this. The students are to be helped to perform the experiments as much as possible: the lab work should be like an apprenticeship, with your example and encouragement. The teaching assistant should not sit at the desk, but should circulate constantly among the various groups and see that nobody is at sea as to what to do next.
- The lab notebooks should be looked at, but no effort made to do extensive grading on them (it is too hard and laborious); check that tables have titles, quantities have names, graphs have scales and units. The TA should initial and date each notebook immediately after the lab. Check that the students write some explanation phrases, not just a bunch of numbers.
- Students should be told the lab notebook should be readable, but not unnecessarily neat.
- TA's are requested to provide additions, corrections and criticism to the lab manual.
- The students are required to take all labs; for this reason it is absolutely essential that the TA keep an up to date record of attendance.
- The lab grade should be based on the 5 min quiz, the lab notebook and the TA's subjective feeling for the interest, industriousness and understanding of each student. The lab grade should be recorded **immediately** after each lab.

UNFORSEEN EMERGENCIES

In case you cannot attend your discussion section or Lab you should try and arrange for another TA or one of the professor to cover. A list of names and telephone numbers will be provided.

HOMEWORK ANSWERS AND GRADING

Answers to the homework must be put in the Physics Library **in the morning** of the day following the due date(usually Tuesday). A schedule of which problems are to be graded each week will be provided.

SYLLABUS-PHYSICS 103 FALL '94

Text: Serway & Faughn III^d edition

LECT	DATE	CHAPTER	LAB TOPIC	HOMEWORK (DUE DATE)
	R Sep1	I st discussion		
1	F Sep2	Ch 1-Introduction	No Lab	
	M Sep5	LABOR DAY		
2	W Sep7	Ch 2-Motion in	No Lab	Ch 1: 32,33,34,35,37,38,40 (9/7)
3	F Sep9	one dimension		Ch 2: 4,7,16 (9/7)
4	M Sep12	Ch 3-Vectors	M1-Measurements	Ch 2: 18,31,32,34,43,50 (9/12)
5	W Sep14	Quiz in disc. sect.		Ch 3: 4,14,16,25 (9/12)
6	R Sep15			
	F Sep16			
7	M Sep19	Ch 4-Laws of	M4-Free fall	Ch3: 18,19,30,33,42,44 (9/19)
8	W Sep21	motion		Ch4: 9,10,15 (9/19)
9	F Sep23			
10	M Sep26	Review	M2-Equilibrium	Ch 4: 19,25,27,34,35,36,41,55,56,76 (9/26)
11	W Sep28			
	R Sep29	I st ONE HOUR EXAM 7:15-8:55 pm	Ch I-IV	
12	F Sep30	Ch5-Work and	—	
13	M Oct3	Energy	M10-Power and	Ch 5: 16,18,19,24,36,41,73,76 (10/3)
14	W Oct5	Ch 6-Momentum	friction	Ch 6: 3,5,6,15 (10/3)
15	F Oct7			
16	M Oct10	Ch 7-Circular motion	M5-Conservation	Ch 6: 21,22,34,37,45,60 (10/10)
17	W Oct12	Quiz in disc. sect.	of momentum	Ch 7: 3,8,10 (10/10)
18	R Oct13			
	F Oct14			
19	M Oct17	Ch 8-Rotational	M6-Centripetal force	Ch 7: 15,23,33,38,52,66,68 (10/17)
20	W Oct19	dynamics		Ch 8: 6,7,10 (10/17)
21	F Oct21			
22	M Oct24	Review	M3-Equilibrium of	Ch 8: 12,17,34,36,48,51,60 (10/24)
23	W Oct26		a solid body	
	R Oct27	II nd ONE HOUR EXAM 7:15-8:45 pm	Ch V-VIII	
24	F Oct28	Ch 9-Solids and Fluids	—	
25	M Oct31	Ch 10 Fluid motion	M9-Angular acceleration	Ch 9: 3,9,10,16,17,19,23,33,40,43 (10/31)
26	W Nov2		of a flywheel	Ch 10: 1,8,15 (10/31)
27	F Nov4			
28	M Nov7	Ch 11-Thermal	M11 - Young's Modulus	Ch 10: 9,16,18,20,23,26,39 (11/7)
29	W Nov9	physics		Ch 11: 3,11,27 (11/7)
30	R Nov10	Quiz in disc. sect.		
	F Nov11			
31	M Nov14	Ch 12-Heat	H2-Gas Thermometer	Ch 11: 9,12,30,33,47,52,55 (11/14)
32	W Nov16			Ch 12: 2,14,15 (11/14)
33	F Nov18			
34	M Nov21	Ch 13-Thermo-	No Lab	Ch 12: 4,9,18,20,25,32,36 (11/21)
35	W Nov23	dynamics	—	Ch 13:1,11,17 (11/21)
	Nov24-27	THANSGIVING RECESS		
36	M Nov28	Review	H3-Heat of fusion, or	Ch 13: 4,6,12,16,20,29 (11/28)
37	W Nov30		H4-Heat of vaporization	
	R Dec1	III rd ONE HOUR EXAM 7:15 pm	Ch IX-XIII	
38	F Dec2	Ch 14-Vibrations		
39	M Dec5		S1-Strings M7-Pendulum	Ch 14: 1,3,9 (12/5)
40	W Dec7			
41	F Dec9	Ch 15-Sound		
42	M Dec12		No Lab	Ch 14: 4,15,20,24,30,41 (12/12)
43	W Dec14	Review	—	Ch 15: 6,37,47 (12/12)
	W Dec21	FINAL EXAM 7:45 am		

Problems are due before class on the due date shown, in the shelves outside the lecture room.