SYLLABUS FOR PHY-121: University Physics I

Spring 2001

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CLASSES:			OFFICE HOURS: (Tentative)
PHY 121	1:40-2:30	MWF	3:40 - 4:30 MWF
PHY 121	2:40-3:30	MWF	1:40 - 3:30 TH
			(See Web Page for Updates)

I. INTRODUCTION

PHY-121 is the first part of a three-semester sequence in introductory physics offered to engineering and other science and pre-professional majors. The prerequisite for PHY-121 is MAT-270. A working familiarity with basic differential and integral calculus will be assumed.

PHY-121 covers the subject of Newtonian mechanics including kinematics (the description of motion), and dynamics (the relation of motion to force and mass). Among the most important topics are Newton's Laws of Motion and the conservation of momentum and energy. Other topics are rotational kinematics and dynamics, Newtonian gravitation, and simple harmonic motion. A detailed list of topics can be found on the lecture schedule which accompanies this syllabus.

The textbook is Physics for Scientists and Engineers, Second Edition, by Fishbane, Gasiorowicz, and Thornton (Prentice Hall Publishers, 1996) (Volume 1 or Extended). Reading assignments and homework problems are keyed to this textbook.

II. COURSE FORMAT AND POLICIES

A. General

The course during this Semester commences on Wed., Jan. 17 and concludes on Mon., April 30. A schedule of lectures, examinations and homework assignments is distributed with this syllabus.

Lectures are on MWF from 2:40 until 3:30 in PSF-173. Role is not taken, but attendance is strongly advised. Students are responsible for any information imparted to the class during lectures.

Recitation sections occur weekly as scheduled, beginning Tue., Jan. 23. The last recitation meetings will be on Thu., April 22. The purpose of the recitation section is to give the student an opportunity in a small class environment to learn essential concepts and problem-solving strategies. Each recitation period will open with a short quiz.

Help-Study Sessions are for the students' benefit, but participation is optional. Beginning Mon., Jan. 22, the Help-Study Hall (PSH-563) will be staffed by volunteer faculty and Teaching Assistants several hours each day between 8:40 and 3:30. Teaching Assistants associated with this course, and your instructor, will keep some of their office hours in the Help-Study Hall.

An **e-mail** account is available for every student enrolled at ASU. Instructions for obtaining an e-mail account can be obtained at the ASU Computer Commons. Important class information will be disseminated regularly through e-mail. The student will be responsible for receiving it. Exam and term grades will be published by e-mail or web page as soon as they are available. If you currently have an ASU e-mail account, then you need do nothing. If you DO NOT currently have an e-mail account at ASU, or if you do not receive an e-mail from the instructor by Feb. 9, then you should send the instructor a message at the address **gary.adams@asu.edu.** The subject of the message should be "PHY 121 e-mail" and the body of the message should include your name and your RECITATION SECTION by TIME and by LINE NUMBER. Your e-mail address will be copied from your message and added to the class list.

B. Homework

A list of assigned homework problems is distributed with this syllabus. There is one assignment for each lecture. Homework will be handed in at the BEGINNING of each recitation meeting beginning Tue., Jan 23.

HERE ARE THE RULES GOVERNING WHICH
HOMEWORKS ARE DUE AT EACH RECITATION.

Tuesday Recitations: All Homework assigned (but not yet turned in) through (and including) the previous Friday.

Wednesday Recitations: All Homework assigned (but not yet turned in) through (and including) the previous Monday.

Thursday Recitations: All Homework assigned (but not yet turned in) through (and including) the previous Monday.

Homeworks which would be due after the final recitation meeting can be turned in at the beginning of the final exam.

LATE HOMEWORK WILL NOT BE ACCEPTED.

Your recitation section TA, or a grader, will grade one or two problems from each week's homework set for 10 points each. The problems to be graded will be selected at random but will be the same for all recitation sections. The remaining problems will be counted for 1 point each if there has been a good faith attempt to solve them. There are currently 214 assigned problems of which approximately 20 will be graded for 10 points each. Thus a total of 394 homework points are possible. The final homework grade will be determined as a percentage out of 350 points (or $\sim$90% of all possible points should the number of graded problems change.) Your maximum homework grade is 100%, i.e. more than 350 points will not be counted as extra credit. 100 HOMEWORK POINTS ARE REQUIRED FOR A PASSING GRADE IN THE COURSE.

The following policies govern homework:

* Assignments will be accepted only at the beginning of the recitation period on the days they are due. LATE HOMEWORK WILL NOT BE ACCEPTED.
* STUDY GROUPS ARE STRONGLY ENCOURAGED. For most people, talking about physics is an essential part of understanding physics and developing an accurate and useful physical intuition. However, written homework solutions should be one's own. Homework that has obviously been copied will not receive credit and the students involved will be subject to charges of academic dishonesty.

C. Quizzes

Quizzes will be given during the first 10-15 minutes of each recitation beginning Tue. 1/23. This results in 13 quizzes for each recitation section. The highest 10 quiz scores will be counted. Quizzes will be similar to simpler problems, and will be on material already covered in the lectures and homework assignments. Tue. and Wed. quizzes will most likely come from material covered during the previous Fri. or Mon., while Thu. quizzes will most likely come from material covered during the previous Mon. or Wed.

D. Examinations

The five tests will cover material indicated in the schedule by lecture numbers. Each test will consist of 2-3 problems and 10-12 multiple choice questions. The problems may be similar to homework, but they may also represent applications of principles in entirely different circumstances. The multiple choice questions may cover conceptual questions as well as "quicky" problems. The final examination will consist of 40 multiple choice questions. The final will be comprehensive. For the test dates, see the lecture schedule which accompanies this syllabus. Last year's tests, with solutions, will be available at the Noble Library Copy Center beginning Mon., Jan 22.

Examinations are governed by the following policies:

* THERE WILL BE NO MAKE-UP TESTS. The lowest score of all five tests will be deleted in the final course grade calculation.
* Academic dishonesty on an examination will result automatically in a failing grade for the course and referral to the Dean for further sanctions. Cheating in any form will not be tolerated!
* The use of hand calculators is permitted.
* Test paper (including scratch paper) will be provided. Bring only your pencils and calculators.
* Formula sheets will not be used in tests. Understanding a concept of physics is tantamount to knowing its mathematical expression and how to apply it to a given physical situation. Non-trivial derivatives and integrals, numerical values of physical constants, and some case-specific formulas will be provided when their use is required.
* Partial credit is given. Arithmetical errors will be treated charitably, but for answers that do not make physical sense (wrong dimensions, deviation by several orders of magnitude, etc.) no credit will be awarded. In general, you must get the PHYSICS right to receive any partial credit. Wrong physics = no credit.
* In the event of a fire alarm occuring during an examination, students will be asked to close their examination booklets, gather their belongings and leave the room as expeditiously as possible, leaving their examination booklets on the tables where they were working. The booklets will be gathered and graded as they are. Unless the alarm proves to represent a bona fide emergency, there will be no make-up examination.
* If a student believes there to have been an error in grading his or her

examination, the complaint should be put in writing and handed, together with the examination, to the course instructor. The problem will be regraded by the individual who graded it originally. If the student is not satisfied with the grader's response to the complaint, he or she may appeal to the course instructor. In this event, the instructor reserves the prerogative to regrade the entire examination. (Simple errors, such as point addition, can be corrected by contacting the student's recitation section instructor.)

E. Final Grades.

The final course grades will be determined with the following weights:

Homework: 10%
Quizzes (best 10 of 13): 10%
Tests (best 4 of 5): 60%
Final Examination: 20%

A MINIMUM OF 100 HOMEWORK POINTS IS REQUIRED FOR A PASSING GRADE IN THE COURSE. The scale for final letter grades will ultimately be determined by the overall class performance. However, any student who earns 90% of all possible points can expect to receive an A. For information on HOW TO FIGURE YOUR FINAL GRADE see the course web page at **http://www.public.asu.edu/~gbadams**. (This information will be available by Jan. 23.)

F. Withdrawal

Withdrawal policies are established by the University (see the Spring 2000 Semester Bulletin.) The deadline for unrestricted course withdrawal (guaranteed W) is FEB. 9. The deadline for restricted withdrawal (instructor-approved W) is MAR. 30. Other deadlines are also given in the Bulletin. The important point to remember is that after Feb. 9 (and before any other withdrawal deadline) one will receive either a W or an E depending respectively upon whether or not one is "passing" the course at that time as certified by the instructor. In particular, a cumulative homework score of less than 20% at the time of withdrawal will be interpreted as failing. Performance on examinations will also be taken into consideration.

Beginning Jan. 23, this information, plus course info updates, will be available on the internet at http://www.public.asu.edu/~gbadams