SYLLABUS FOR PHY-111: General Physics I

Spring 2003

INSTRUCTOR: Dr. Gary B. Adams
OFFICE: PSF-430 PHONE: 727-6511 (Physics Desk: 965-3561)
E-MAIL: gary.adams@asu.edu
WEB PAGE: http://www.public.asu.edu/~gbadams

CLASSES:

<table>
<thead>
<tr>
<th>Course</th>
<th>Time</th>
<th>Office</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHY 111</td>
<td>10:40-11:30 MWF</td>
<td>PSF-462</td>
</tr>
<tr>
<td>PHY 111</td>
<td>11:40-12:30 MWF</td>
<td>PSF-462</td>
</tr>
</tbody>
</table>

OFFICE HOURS:

<table>
<thead>
<tr>
<th>Time</th>
<th>Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:40-11:30</td>
<td>MWF</td>
</tr>
<tr>
<td>3:00-5:00</td>
<td>T</td>
</tr>
<tr>
<td>2:40-3:30</td>
<td>F</td>
</tr>
<tr>
<td>2:40-3:30</td>
<td>TH</td>
</tr>
</tbody>
</table>

(NOTE: All office hours are open to all of my students.)

I. INTRODUCTION

PHY-111 is the first part of a two-semester sequence in introductory physics offered to students who are not majoring in physics or engineering. This sequence is intended for students in pre-medicine, pre-architecture, pre-dentistry, pre-law, construction, psychology, life sciences, manufacturing technology, aerospace technology, physical therapy, pre-optometry, pre-veterinary medicine, etc. WE WILL ASSUME YOU HAVE A GOOD WORKING KNOWLEDGE OF ALGEBRA, GEOMETRY, AND TRIGONOMETRY.

PHY-111 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 include: Elasticity and Simple Harmonic Motion, Fluids, Waves and Sound, and Heat and Thermodynamics. The textbook is College Physics, by Alan Giambattista, Betty M. Richardson, and Robert C. Richardson (McGraw Hill, 2004.)

The associated laboratory, PHY-113, is an essential part of the introductory physics experience. We STRONGLY recommend that you take the lab concurrently with the lecture lection, even if your curriculum is one of the few that does not require it.

II. COURSE FORMAT AND POLICIES

A. General

The course during this Semester commences on Mon., Aug. 25 and concludes on Tue., Dec. 9. A schedule of lectures and examinations is distributed with this
syllabus. A schedule of reading and homework assignments will be posted on the class web site.

**Lectures** are on MWF from 10:40-11:30 and 11:40-12:30 in PSF-173. Role is not taken, but attendance is strongly advised. Students are responsible for any information imparted to the class during lectures. You may attend either lecture, but you MUST TAKE ALL TESTS IN THE LECTURE FOR WHICH YOU ARE REGISTERED.

**Recitation** sections occur weekly as scheduled, beginning Mon., Aug. 25. The last recitation meeting will be on Tue., Dec. 9. 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 (except the first Mon., Tue., and Wed.) will open with a short quiz.

**Help-Study** sessions are for the students’ benefit, but participation is optional. Beginning Tue., Sept. 2, the Help-Study Hall (PSH-352) 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 Sept. 8, then you should send the instructor a message at the address gary.adams@asu.edu. The subject of the message should be "PHY 111 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 will be made available on the class web site as the semester proceeds. There will be one assignment for each lecture. Homework will be handed in at the BEGINNING of each recitation meeting beginning Fri., Aug. 29. (Students in Wed. or Fri. recitations will have a final opportunity to turn in HW in the lecture hall on Mon., Dec. 8.)
HERE ARE THE RULES GOVERNING WHICH
HOMEWORKS ARE DUE AT EACH RECITATION.

Monday Recitations: Turn in all HW assigned (but not yet turned in)
through (and including) Wednesday of the previous week. (Exception: Due to
the Labor Day Holiday, your first HW turn-in will be in the lecture hall on Wed
Sept 10.)

Tuesday Recitations: Turn in all HW assigned (but not yet turned in)
through (and including) Friday of the previous week. (Exception: Due to the
Veteran’s Day Holiday, your HW turn-in for that week will be in lecture on Wed
Nov 12.)

Wednesday Recitations: Turn in all HW assigned (but not yet turned in)
through (and including) Monday of that week. (Exception: No HW is due at your
first recitation meeting on Aug. 27.)

Friday Recitations: Turn in all HW assigned (but not yet turned in)
through (and including) Wednesday of that week. HW IS due at your first
recitation meeting on Fri Aug 29. (Exception: Due to the Thanksgiving
Holiday, your HW turn-in for that week will be in lecture on Mon. Dec. 1.)

LATE HOMEWORK WILL NOT BE ACCEPTED.

Your recitation section TA, or a grader, will generally grade one problem
from each week’s homework set for 10 points each. The problem 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 will be approximately 228 assigned problems
of which approximately 14 will be graded for 10 points each. Thus a total of
approximately 354 homework points will be possible. The final homework grade
will be determined as a percentage out of 300 points (or ~85% of all possible
points should the number of graded problems change.) Your maximum homework
grade is 100%, i.e. more than 300 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.

* Show your work neatly. Remember that your TA is grading 120 HW papers per week. HW which is unreadable, or in which the logic is indecipherable, will not receive credit.

C. Quizzes

Quizzes will be given during the first 10-15 minutes of each recitation beginning Fri. 8/29. This results in 14 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/or homework assignments. Mon. quizzes will most likely come from material covered during the previous Mon. or Wed., Tue. quizzes will most likely come from material covered during the previous Wed. or Fri., Wed. quizzes will most likely come from material covered during the previous Fri. or Mon., and Fri. quizzes will most likely come from material covered during Mon. or Wed. of that week.

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 simpler 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. This instructor’s old tests (from Spring 1997), with solutions, will be available at the Noble Library Copy Center beginning Wed., Sept. 3.

Examinations are governed by the following policies:

* THERE WILL BE NO MAKE-UP TESTS for any reason. 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. However, YOUR CALCULATOR MAY NOT CONTAIN STORED PHYSICS EQUATIONS.
* Test paper (including scratch paper) will be provided. Bring only your pencils and calculators.
* A short equation sheet will be provided for each test. It will NOT include any definitions, or fundamental physical principles (like Newton’s Second Law). You will always find the current version of the equation sheet on the class web page.
* No partial credit is given for multiple choice. For the problems, 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 occurring 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 (total points out of 300): 10%
- Quizzes (best 10 of 14): 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 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. (This information will be available by Sept. 3.)

F. Withdrawal

Withdrawal policies are established by the University (see the Fall 2003 Semester Bulletin.) The deadline for unrestricted course withdrawal (guaranteed W) is Sept. 21. The deadline for restricted withdrawal (instructor-approved W) is Oct. 31. Other deadlines are also given in the Bulletin. The important point to remember is that after Sept. 21 (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 Aug. 29, this information, plus course information updates, and answers to even-numbered problems, will be available on the internet at

http://www.public.asu.edu/~gbadams