Syllabus for Phys 0174
Basic Physics for Scientists and Engineers 1
Fall 2009

Course Information:

Location	343 Alumni Hall
Lecture	Monday, Wednesday, Friday 2:00 – 2:50
Text	*Fundamentals of Physics, 8th Edition* by Halliday, Resnick and Walker
Professor	Adam Leibovich
Contact info	Phone: 4-3617, email akl2@pitt.edu
Office	200 K Allen Hall
Office hours	Monday, Wednesday, and Friday 11:00-12:30, or by appointment

Course Description and Objectives: This course is the first half of a two-semester, calculus based introductory physics course. The major goal of this physics course is to enable you to develop logical reasoning skills, to explain or predict diverse phenomena in everyday experience, and to become good problem solvers and independent thinkers. In particular, you will learn to apply the principles of

- Measurement and vectors
- Motion in one dimension
- Motion in three dimensions
- Newton's Three Laws of Motion
- Newton's Law of Gravitation
- Work and Conservation of Energy
- Linear Momentum
- Rotational Motion
- Simple Harmonic Motion and Waves
- Thermodynamics

Physics 0174 has three components. The first is the lecture MWF from 2:00 to 2:50 in 343 Alumni Hall. The second is a smaller recitation section that meets one hour per week, taught by one of the TAs. In recitation you will take a short quiz and discuss physics and the homework. The third component is a computer recitation. Attendance is mandatory in all three components. Exams will be given during the lecture (see schedule below).

Course Prerequisites: Mathematics is the language of physics, and thus is important to any physics class. Familiarity with basic algebra, geometry, and trigonometry is required before taking this course. You must be at least co-registered in Calculus 1.

Text and Materials: The textbook for this course is *Fundamentals of Physics, 8th Edition* by Halliday, Resnick, and Walker and is available in the university bookstores. In addition, you will need a scientific calculator with at least trigonometric, logarithmic and exponential functions.

CourseWeb: A CourseWeb site for this course has been created and from there you may view announcements, send email to the instructor/TAs and download course material (such as the syllabus and lecture notes). To access the CourseWeb site, go to courseweb.pitt.edu and login using your Pitt email username and password.

Class Participation: I encourage you to participate fully in class discussions. Physics ideas build on previous material, so it is important to understand what is being taught each step of the way. I strongly encourage you to ask questions to clarify any doubts. There is no such thing as a dumb question. Chances are, if you are confused, someone else in the class is also confused, which means that I did not do a good enough job explaining something. Please stop me when this happens, so I can try again.

The Department of Physics and Astronomy has purchased a Student Interactive Response System (SRS) for 343 Alumni Hall. The system consists of hand-held remote controls (pads) for every student, which is read by receivers in the room. The system will allow me to ask questions during the lecture and let you respond anonymously. At the beginning of the semester, you will be assigned a number that corresponds to a particular pad. The pads will be stored in two carts at the front of the room, so that you may pick up your pad as you enter the hall, and return it when you leave. **Don't forget to return the pad, since other classes will also be using the system!** The questions you answer during class will count for extra credit at the end of the semester (possible 2% added to your final average). Most of the credit (80%) will be given for supplying an answer, even if incorrect. The rest of the credit (20%) will be for having the correct answer.

Study Resources: A Resource Room will be available throughout the semester for help in understanding physics concepts and completing homework assignments. The room is usually available from 9 am to 5pm, Monday through Friday, in room 312 Thaw Hall. Please check the schedule at www.phyast.pitt.edu/resources/education/resource_room.php. In addition, tutoring is available through the Academic Resource Center located in GSCC (www.as.pitt.edu).

Homework: Problem-solving skills are important to learning and understanding physics and so homework is an important part of the course. This course will employ the LON-CAPA online homework system. The address is: np1q1.phyast.pitt.edu. Even though your username for this system is the same as your Pitt email account, LON-CAPA is independent of the university computer system. Your initial password is your PeopleSoft number. Instructions on how to use the system will be put onto CourseWeb. Homework assignments will be completed on LON-CAPA and no paper copies will be accepted.

Each problem in LON-CAPA is generated uniquely for each student in the course. Therefore, the problems assigned to you will be similar, but not identical, to problems assigned to other students. Each problem has a discussion board and you are encouraged to use this feature to ask questions and offer insights to other students. You can post anonymously to these discussion boards. It is not anonymous to the professor and TAs, and will be monitored. **You MAY NOT POST SOLUTIONS to the problems on the**

discussion board! Posting a solution to a problem on the discussion board will result in disciplinary action.

A LON-CAPA assignment will be due before the start of each lecture. No assignments will be due on the day of an exam. You will also turn in worked out solutions for these problems for credit during recitation sessions. The homework assignments will be posted well ahead of the due date, so I encourage you to **START EARLY**. If you have any questions about the homework problems they contact your TA of Dr. Leibovich. You may also find help in the Resource Room (Thaw 312) and the Academic Support Center (WPU 311).

Exams: There will be **three** mid-term exams (in lecture) and a 1 hour 50 min cumulative final examination. The exams are expected to fall on:

- Exam 1: Wednesday, Sep. 23
- Exam 2: Friday, Oct. 23
- Exam 3: Friday, Nov. 20
- Final: Monday, Dec. 14 from 4:00 – 5:50

The Exams are in Scaife Auditorium 6. The room for the final to be announced.

Course Grades: Your grade in the course will be based on homework, quizzes and exams. The grades will be weighted according to the table below:

Quizzes	5%
Computer Assignments	15%
Homework	15%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Final Exam	20%

Extra credit is available. The in-class SRS questions can give a total of 2% added into the final grade. Additional extra credit may be offered during the semester.

Important dates:

August 31st	First day of classes
September 7th	No class – Labor Day
September 11th	Add/drop period ends
September 23rd	First midterm exam
October 12th	No class – Fall break: Monday classes meet on Tuesday
October 16th	Lecture moved to David Lawrence 120 for the day
October 23rd	Second midterm exam
October 30th	Last day to withdraw
November 20th	Third midterm exam
Nov 25-29	No class – Thanksgiving Recess
December 11th	Last day of classes
December 14th	Final exam

Recitations: The recitations sections are mandatory, and there will be quizzes most weeks. The times/rooms are:

1. Monday 3:00 – 3:50 in 138 GSCC	Wednesday 3:00 – 3:50 in 102 Thaw Hall
2. Wednesday 3:00 – 3:50 in 138 GSCC	Monday 3:00 – 3:50 in 104 Thaw Hall
3. Monday 3:00 – 3:50 in 138 GSCC	Friday 3:00 – 3:50 in 102 Thaw Hall
4. Wednesday 3:00 – 3:50 in 138 GSCC	Friday 3:00 – 3:50 in 104 Thaw Hall
5. Friday 3:00 – 3:50 in 621 Benedum	Monday 3:00 – 3:50 in 106 Allen Hall

Academic Integrity: "Students in this course will be expected to comply with University of Pittsburgh's Policy on Academic Integrity. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity. This may include, but is not limited to, the confiscation of the examination of any individual suspected of violating University Policy. Furthermore, no student may bring any unauthorized materials to an exam, including dictionaries and programmable calculators."

Disabilities: If you have a disability that requires special testing accommodations or other classroom modifications, you need to notify both the instructor and the Disability Resources and Services no later than the 2nd week of the term. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify Disability Resources and Services, call 648-7890 (Voice or TTD) to schedule an appointment. The Office is located in 216 William Pitt Union.