Dear student:

Welcome to Physics! According to my records, you are enrolled in Physics 231 – General Physics 1 for the Spring 2004 semester. This is the first in a series of 3 introductory, calculus-based physics courses. This course is intended for majors in physics or anyone with a sufficient math background who is interested in physics. The class will meet Mondays, Wednesdays, and Fridays 11:00 am - 12:20 pm in Duke 100. Thursdays 11:00 am - 12:20 pm we will meet in Duke 113 for laboratory activities and class review. You will be expected to come to all meetings of the class. This will be discussed in more detail during the first class of the semester, Wednesday, January 14th.

Homework will be due at every class period (MWF), including the first meeting (see below). The first topic covered will be a review of topics you should have encountered in high school and in Calculus I. In case you will not be purchasing the book until you get back, I have enclosed a copy of chapter 1. A quiz on this material will be given on Friday, January 16th; so attending the first meeting is vital. As you have probably guessed at this point, this class requires quite a bit of work. I am here to help you through it. I will hold office hours three times a week and you are always welcome to make an appointment to see me at other times. For more information, check out the class web page at: http://newton.uor.edu/facultyfolder/julie_rathbun/phys231/; a copy of this letter will be on the page in case you loose the assignment. I look forward to meeting you in January. If you would like to meet prior to the first class meeting, I'd love to hear from you, please call me at x2927 or drop by my office in Duke 111.

Sincerely,

Dr. J. A. Rathbun

Homework assignment #1
Due 1/14/04 at the beginning of class
Read Chapter 1 in the textbook
Turn in the following problems. Show all work.
Chapter 1:

#3E: Horses are to race over a certain English meadow for a distance of 4.0 furlongs. What is the race distance in units of (a) rods and (b) chains? (1 furlong = 201.168 m, 1 rod = 5.0292 m, and 1 chain = 20.117 m.)

10E: Physicist Enrico Fermi once pointed out that a standard lecture period (50 min) is close to 1 microcentury. (a) How long is a microcentury in minutes? (b) Using percentage difference = ((actual – approximation)/actual)*100, find the percentage difference of a standard class period from a microcentury.

19E: Earth has a mass of 5.98×10^{24} kg. The average mass of the atoms that make up Earth is 40 u. How many atoms are there in Earth? (1 u = 1.661×10^{-27} kg)

plus this additional problem: Express the speed of light (3.0×10^8 m/s) in units of furlongs per fortnight. A fortnight is 2 weeks long.