January 3, 2017

Happy New Year and Welcome to Physics 1302, Section 300 for Spring Semester 2017!

You are receiving this letter because you are registered for Physics 1302, Section 300 for Spring Semester 2017. When classes begin on Tuesday, January 17, Physics 1302, Section 300 will start right away continuing the exploration of the Universe in which we live. The purpose of this letter and the other information included in this email is to acquaint you with the logistics of this course, so we can start talking about science without delay.

This letter is long, so here is a list of the topics:

1. First Week of Class
2. What You Should Know About Physics 1302
3. Things You Should Do Before Classes Start
4. Problem-Solving Groups
5. Take A Professor to Lunch
6. Course Instructor

1. First Week of Class

The first lecture class of Physics 1302, Section 300 will begin at 1115 Tuesday, January 17, 2017 in Willey Hall 125 (West Bank). Labs and Problem Sessions will be held the first week of classes beginning on Tuesday, January 17. If your lab is scheduled for Tuesdays, Wednesdays, Thursdays or Fridays, you should go to lab as scheduled on January 17-20. If you are enrolled in a lab that meets on Mondays), you will not have lab the first week of classes. For these sections, your first lab will be on Monday, January 23.

You should attend your scheduled Problem Session on Thursday, January 19.

2. What You Should Know About Physics 1302

Physics 1302 is an intensive, calculus-based introduction to Electromagnetism (E&M). It is intended primarily for students with majors in the sciences, mathematics and all aspects of engineering. On end of semester evaluations, most students rate Physics 1302 as “difficult.” The majority of students also likely consider Physics 1302 more challenging and less intuitive than Physics 1301. If you do the assigned work in this course, you will likely pass Physics 1302 with a grade of at least “C-“. However, most students need to accomplish 8 to 10 hours a week of work in Physics 1302 outside class to earn a grade of “A” or “A-” and 5 to 7 hours a week to earn a grade of “B+”, “B” or “B-“. Some students convince themselves
that because they are smart, they can get away with less work and still get high grades. That strategy rarely works.

To do well in Physics 1302, you need to:
• Show up in class and participate actively.
• Actually do the homework problems by yourself or in study groups; don’t just use Google or Chegg to look up the answers to the problems.
• Put a reasonable effort into doing the lab experiments and especially the lab write-ups.
• Frequently look at relevant sections in the textbook and read about topics you don’t understand.
• Prepare for exams by doing the practice problems and reviewing topics that you have not yet mastered.
• Ask questions! Use the tutors. Talk to the Instructor and the TAs.

3. Things You Should Do Before Classes Start

a. Read the Syllabus that is attached to this email. The Syllabus is the official set of rules for the class and as an enrolled student, you are responsible for reading it.
      The recommended option is to buy the book at the University Bookstore [http://www.bookstores.umn.edu/buybooks.cgi](http://www.bookstores.umn.edu/buybooks.cgi). The Bookstore package optionally includes a code number for *MasteringPhysics*, which you will need for Homework and Pre-Class Questions. [If you used MasteringPhysics in Fall Semester 2016, you should NOT need a new code number.] The Course ID for *MasteringPhysics* is MPMARSHAK87506.
      c. If you used an iClicker 2 in Fall Semester, it should continue to work for this class. Otherwise, you should obtain and register (via Moodle) an iClicker 2.

4. Problem-Solving Groups

An important component in achieving success in Physics 1302 is the ability to solve quantitative problems. A major goal of this class will be to strengthen your problem-solving skills. One useful strategy is Problem-Solving Groups. For the group to work well, each member of the group should attempt to solve the assigned problems prior to the group’s meeting. Then when the group meets, members learn either by teaching others how to solve specific problems or by having others teach them. You win whether you are the explainer or the recipient of an explanation. Educational research indicates that the best group size is 3 or 4 students and that mixed gender groups are most effective. I suggest you form a group as soon as possible by asking in your residence hall or among people you know who are taking Physics 1302. There are three other sections of Physics 1302, all covering the same material on roughly the same schedule, so you can include students from any section of 1302 in your study group.
5. Take A Professor to Lunch

The University promotes a program called Take A Professor to Lunch. The way it works is that a student organizer arranges a time for lunch or dinner with a professor, then she/he finds a few other students to participate and fills out a web form. Everybody in the group gets a free meal. For more information, check the website http://undergrad.umn.edu/typl.html

Also, if you are just interested in talking either individually or in a group, just come to office hours or email me to setup a time.

6. Course Instructor

Finally, let me tell you about myself. My research area is experimental elementary particle physics. My current experiments are called MINOS, NOvA, CHIPS and DUNE. They all seek to learn more about particles known as neutrinos by generating a neutrino beam at Fermi National Accelerator Laboratory near Chicago and detecting those particles at a remote location. The collaborations working on these experiments each include many hundred scientists from about 80 universities and institutes in about several dozen countries. In addition to research and teaching, I am also currently Director of the Soudan Underground Laboratory and Director of the NOvA Ash River Laboratory.

A quick biography is that I have a B.A. in Physics degree from Cornell University and an M.S. and a Ph.D., both in Physics, from the University of Michigan. I have worked at the University of Minnesota since 1970 in a variety of positions. My wife, Anita Sue Kolman, has a Ph.D. in Sociology from the University of Minnesota and currently operates an Art Gallery in northeast Minneapolis. We have two children and five (+1 in progress) grandchildren, who live in New York City and Boston.

Please let me know if you have questions or concerns either now or during the semester. I will have office hours as listed in the Syllabus. I am also glad to meet you at other times by appointment. Email (marshak@umn.edu) is usually the best way to reach me, but you can also call me either at my office (612-624-1312) or home (952-929-3620) or mobile (612-384-6265).

I am looking forward to meeting you and to a great Spring Semester. I hope you are too.

Best regards,

Marvin L. Marshak
College of Science Engineering Professor
Morse-Alumni Professor