Welcome to Physics 1302.600W for spring 2017.

You are receiving this letter because you are registered for Physics 1302, Section 600 for Spring Semester 2017. Our first class is on January 18th at 5:45. We will start right away continuing the exploration of the Universe in which we live. The purpose of this letter is to acquaint you with the logistics of this course.

1. First week of class
2. What you should know about Physics 1302
3. Things to do before class starts.
4. Problem-Solving groups.
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First week of class

The first lecture class of Physics 1302, Section 600 will begin at 5:45 pm Wednesday, January 18th, in Willey Hall 125 (West Bank). Labs will be held the first week of classes beginning on Tuesday, January 17. If your lab is scheduled for Tuesday or Wednesday you should go to lab as scheduled on January 17th and 18th. 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.

What you should know about 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-.
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.

What to do Before Class

1. 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.

2. Obtain a copy of the textbook: Eric Mazur, Principles and Practice of Physics, 1st edition, Vol. 2, Chapters 22-32. The recommended option is to buy the book at the University Bookstore (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 MPRUSACK20718.

3. 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.

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 groups 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.
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](http://undergrad.umn.edu/typl.html).

Course Instructor

A little about myself. My research area is experimental particle physics. This is the area of physics that addresses the fundamental question: what are the basic building blocks of the universe and how do they interact with each other? In the past few years my research has been at the Large Hadron Collider at CERN, which is the European Center for Particle Physics in Geneva Switzerland. My experiment was one of the two that reported the observation of the Higgs boson back in 2012. Currently my group is working on an analysis of recent data to measure as precisely as possible the mass of the Higgs.

I am from the UK. I moved to Minnesota in 1993. I was an undergrad at Liverpool University – yes that is the football (aka soccer) team that I still support - and I did my PhD at Imperial College in London. I like to run. If you would like to join me when the weather is reasonable and you don’t mind going slowly (9 - 9:30 min/mile) let me know.

I am looking forward to meeting you and to introducing you to the very interesting subject of electricity and magnetism.

Best Regards

Roger W. Rusack
Professor of Physics
University of Minnesota