Physics 133, General Physics (3rd quarter: E&M), Spring 2014

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LAs: There are 4 Learning Assistants for this course: Stephen Alatorre, Chrystin Green, Christian Hopwood, and Nicole Sanchez. They will be available both in-class and at outside tutoring hours (in 3-2011) to assist you with your learning in this course.

Office Hours: AR & 4 LAs: T 6:15-7:30pm (in our classroom, 162-1001 or 163-2005)
AR: Th, 2:00-3:00pm (3-2011 or 8-220). Other hours by appointment.
SA and CH: W, 3:00-4:00pm (3-2011)
CH and NS: Th, 1:00-2:00pm (3-2011)

Grader: In addition to acting as an LA in the course Nicole Sanchez is also the grader for the course.

Required
This quarter, we will be using a required on-line learning system called Smart Physics (www.smartphysics.com). Smart Physics contains pre-class multimedia learning modules that you will complete before class, as well as your homework assignments that will be due each week. The system costs $30 purchased directly from Smart Physics, but you can register and receive a 30-day free trial, so I strongly suggest you not pay for the course until you are certain you will stay in my section. In order to register for our class, you will first create an account at http://www.smartphysics.com, after which you can follow the instructions found here: http://blogs.whfreeman.com/smartphysics/2013/02/12/student-faq-how-do-i-enroll-in-a-course/. For the course ID referred to in the instructions use P133S14_ALR. When they ask for your student ID, use your Bronco ID.

Also Required
A classroom response system (CRS) pad or “clicker” manufactured by i-Clicker. This item will have to be registered at the i-Clicker website (http://www.iclicker.com/registration). When you register your “clicker”, for the ID requested, use your Bronco ID number. NOTE: BRING THIS TO CLASS EVERY DAY.

Optional text
Fundamentals of Physics by Halliday, Resnick, and Walker (HRW; the same book you used for Physics 131-132). Though the text is optional, I highly recommend you have a physics text to read from for this course. I will be assigning reading from HRW, but if you don’t have this text, you may use any introductory physics text, or other resources, for the assigned reading.

Studying for Physics
Physics 133 is significantly more challenging, both mathematically and conceptually, than Physics 131 or 132. It will require a significant and sustained commitment of study time to master the material. It is recommended that you should spend at least three hours outside of class for each hour in class (a total of at least 9 hours per week outside of class). It will be especially important to do the reading and on-line activities in Smart Physics before coming to class, and to start early on the homework, so that you can ask for help if you need it. I am willing to help you in any way possible but I expect that you will meet me at least half way in this endeavor. Therefore, it is up to you to contact me if you are having problems with the course material.
**Grading**
Pre-class activities 10%
Participation/clickers 10%
Homework (on-line and written) 15%
Midterms (on-line) 30%
Final exam (June 10, 6:00-8:00pm) 35%

100%

**Participation and Interactive Learning**
Significant research (including some done by me with the participation of Cal Poly Pomona students) has shown that having students be active in their own learning in class significantly improves their grasp and retention of the basic concepts in science classes. Accordingly, we will be using a great deal of class time in group activities. This will include frequently answering and discussing questions about the concepts covered in class using a technique known as Think-Pair-Share (or TPS).

In TPS, a question (usually multiple choice) is posed and each student thinks about her/his answer (Think), and then “votes” using their iClicker. Depending on how many students have the correct answer, you will then briefly (~1 minute) discuss your answers and your reasons for choosing that answer in small groups of 2-4 (Pair). Afterwards you will “vote” again (Share). We may then hold a short class discussion about the question to help everyone understand the concept. We will also be working on practice as well as homework problems in class (and office hours immediately after class) in groups, with myself and the LAs available to facilitate your work. Other interactive learning activities will include group problem solving, again with myself and the LAs available to facilitate your work.

There are many reasons to attend class, but the ability to participate in interactive learning and group work is one of the most important. Mastery of the basic concepts of the course is critical to learning the material, and performing well on exams. To emphasize the importance of understanding the concepts, answering clicker questions will make up 10% of your grade (for participation only). You are responsible for bringing your clicker to every class. To allow for unavoidable absences, I will drop your lowest clicker score from your participation grade. Therefore, you do not need to obtain permission to miss one class. In addition, to stress this emphasis on concepts, some fraction of the exams will be made up of questions like the ones used in class.

**Course Schedule, Syllabus, Reading, and Homework Assignments**
The complete course schedule, reading assignments, pre-lecture activities and all on-line homework assignments can be found on the Smart Physics website. In addition to the on-line homework, there will be a few written homework problems assigned from HRW each week. These problems will be posted on the course website, www.csupomona.edu/~alrudolph/classes/phy133, which is also where you can download the course syllabus. Homework will be due at the beginning of class on the dates indicated on the course website. Late homework will not be accepted, except in cases of severe and documented emergencies. It is your responsibility to get the homework in on time.

**Electronic Devices in the Classroom**
The use of electronic productivity and communication tools (Laptops, cell phones, PDAs, digital cameras, etc.) with the exception of calculators and clickers is not allowed during lectures.
Research shows that such devices distract the user, as well as students around them, and lead to lower grades in the class.

**Exams and Testing Circumstances**

There will be four on-line midterm exams administered through Blackboard. Each exam will be available for a 24-hour period, and you will have 60 minutes to complete the exam at one sitting during that 24 hours. These exams are open-book, open-notes, but your work must be your own, and you are bound by the university policy on academic integrity while taking these exams (http://www.dsa.csupomona.edu/judicialaffairs/academicintegrity.asp). In addition, each student will submit the full solutions to the online questions following the online exam for additional credit on the exam.

The final exam is on Tuesday, June 10, 6:00-8:00pm. Please do not make any plans that interfere with this final exam. You cannot be excused from the final exam and there are no opportunities to take it at a different time. The university has scheduled the time for the class final exam and this is the only time it is to be offered. If you have an irresolvable conflict with other courses’ final exams, please inform me well in advance to make other arrangements. During the closed-book, closed-note final exam, you are not allowed to wear headphones, a hat, or allowed to communicate with anyone in the classroom except for the course instructor. Cell phones must remain off at all times during the final exam. If you have been certified as needing to take an exam under special circumstances, please make the necessary arrangements with the Disabilities Resource Services center well in advance of the exam date (at least 10 days).

**Course Conduct**

Please turn off cell phones and other electronic devices before you enter the classroom. Also, out of consideration for your fellow students, please do not arrive late or leave class early unless you have talked to the instructor in advance. I consider academic dishonesty, including cheating, plagiarism, and fabrication, as defined in the University catalog (see also http://www.dsa.csupomona.edu/judicialaffairs/academicintegrity.asp), to be a serious offense and the maximum punishments allowed will be pursued in all scenarios. This includes completing any homework assignments or taking a test for another student. If nearly (or totally) identical work is submitted by more than one student, all parties involved may receive the maximum punishment allowed. Make your work your own, be original.