

# Physics 106

## Winter 2009

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See web for office hrs

**Read** this document **carefully**. Many topics will not be discussed in class and your grade may suffer if you don't follow the correct procedure.

### Course materials:

#### *Text*

You can get the earlier editions cheaply online, and there is a mixed supply of probably all three editions at the bookstore. You only need one.

Serway & Faughn, *College Physics*, 5<sup>th</sup>, 6<sup>th</sup> or 7<sup>th</sup> edition, Vol.2 or combined 1 and 2  
Serway & Vuille, *College Physics*, 8th edition, Vol.2 ISBN: 0495554758

Only volume 2 is needed for 106.

5<sup>th</sup> edition, vol 2: ISBN: 0030225086

Combined vol 1,2: ISBN: 003023798X

6<sup>th</sup> edition, vol 2: ISBN: 0030351294

Combined vol 1,2: ISBN: 0534492584

7<sup>th</sup> edition, vol 2: ISBN: 053499928X

Combined vol 1,2: ISBN: 0534997236

#### *Calculator*

You will need an inexpensive calculator that has scientific functions such as trig, exponentiation, etc. Graphing calculators are not allowed on the exams, so you should get used to your nongraphing calculator by doing your homework with it.

#### *Clicker*

You will also buy a hand-held transmitter ("i-clicker") at the bookstore for class participation exercises. This clicker has been adopted university-wide, and you may use it in other classes, and sell it back to the bookstore as a used "book" or to other students.

**Course Objectives:** This course will help you develop an understanding of the physics of electricity, magnetism, light, quantum mechanics and relativity . You will learn and apply mathematical methods, reasoning, and general problem solving skills. These new concepts and skills should enhance your experience of the physical world and prepare you to use physical concepts, devices and instruments. We hope your appreciation for the order and fundamental simplicity as well as complexity of God's creations will increase.

**Course Web Page:** The Physics 106 homepage can be found at [physics.byu.edu](http://physics.byu.edu), then "Courses" then "Class Web Pages" and then Physics 106.

**Class Identification Number:** Each of you will receive a personal identification number for this course. The purpose of this number is to protect your privacy. You will put this number on all exams. Exams will be returned to you sorted by the first two digits of this number in the bins outside N357 ESC. If you were registered in the class the week before classes start, your CID number will be emailed to your Route-Y email address. If you do not regularly use your Route-Y address, please set it to forward your mail to the address that you regularly use so we can communicate. If you were not registered at the beginning of the semester or have not received it by the first day of classes, you can obtain your identification number over the Internet. Go to our course home page and click on the link to “Obtain Class Identification Numbers (CID)”. Put in your last name and then your first name. Use your BYU ID, etc. as asked for.

**Reading:** Reading assignments are shown on the course schedule, for edition 8. For other editions, most of the sections have identical titles, but see the scan on website of the table of contents of ed. 8 for comparison to your edition. You should complete this assignment before coming to class, and we will assume you have done so. Reading will prepare you to learn the most possible from the lecture and practice activities.

**Reading quizzes and class participation:** At the beginning of each class period, you will respond to questions on the reading assignment. For each question, reading quizzes are 10 points if correct, 3 if incorrect (for being here on time). In addition to the reading questions, we will often ask you to discuss with a class partner a practice question or problem during class. Participation will make a difference in your grade in two ways: you'll do better on the exams and homework, and you will receive additional points: for each question 10 if correct, 9 if incorrect. To allow for sickness and other emergencies, your four lowest days' scores (reading quizzes combined with participation questions) will be dropped.

**Homework:** For all homework policies, please carefully read the detailed separate document, *Homework Submission*, found on the web.

**Tutorial Lab:** A physics tutorial lab is provided in N304 or N362 ESC. From the 106 homepage you can also see who the 106 TAs are and see a map of tutorial lab locations. Teaching assistants will be available roughly 9 am to 9 pm every weekday and several hours on Saturday. The TA schedule will be finalized during the first week of classes and can be found via a link found on the class homepage. You can get help from any TA in the 106/123/220 tutorial lab, but 106 TAs have worked the problems you are doing.

**Exams:** Four exams will be given in the Testing Center in the Grant Building (2<sup>nd</sup> floor) and will be available for the days indicated on the schedule. Exams are closed-book. A formula sheet will be provided on the exam for the equations and data you will need. If you wish, to provide an experience closer to the MCAT, we will offer a version of the exam with no formulas (but physical constants are there) for 5% extra credit.

Exams will include problems similar to homework problems, as well as conceptual questions. Practice for conceptual questions is done in **class**. The exams will be computer graded.

**Final Exam:** The “final” is the last of the four exams, and is not comprehensive. It is in the testing center during all of their finals week open hours.

**Final Grades:**

Grades will be determined by the approximate weights:

Homework 35%      Exams 60%      Reading quizzes and class participation 5%

The cutoffs for grades will not be higher than:

A	94%	B+	86%	C+	74%	D+	60%
A-	90%	B	82%	C	70%	D	56%
		B-	78%	C-	66%	D-	52%

**Prevention of Sexual Harassment:** BYU’s policy against sexual harassment extends to students. If you encounter sexual harassment or gender-based discrimination, please talk to your instructor, or contact the Equal Opportunity Office at 378-5895, or contact the Honor Code Office at 378-2847.

**Students with Disabilities:** BYU is committed to providing reasonable accommodation to qualified persons with disabilities. If you have any disability that may adversely affect your success in this course, please contact the Services for Students with Disabilities Office at 378-2767. Services deemed appropriate will be coordinated with the student and your instructor by that office.

**Children in the Classroom:** The serious study of physics requires uninterrupted concentration and focus in the classroom. Having small children in class is often a distraction that degrades the educational experience for the entire class. Please make other arrangements for child care rather than bringing children to class with you. If there are extenuating circumstances, please talk with your instructor in advance.