

# Physics 105

## Fall 2007

### Instructors:

#### Section 1

Bret Hess  
N251 ESC  
422-2108  
[bret\\_hess@byu.edu](mailto:bret_hess@byu.edu)

#### Section 2

John Colton  
N335 ESC  
422-3669  
[john\\_colton@byu.edu](mailto:john_colton@byu.edu)

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*

Serway & Faughn, *College Physics*, 5<sup>th</sup>, 6<sup>th</sup> or 7<sup>th</sup> edition, Vol.1.

Only volume 1 is needed for 105, and volume 2 is used in 106.

5<sup>th</sup> edition, vol 1: ISBN: 0030225078

Combined vol 1,2: ISBN: 003023798X

6<sup>th</sup> edition, vol 1: ISBN: 0534492606

Combined vol 1,2: ISBN: 0534492584

7<sup>th</sup> edition, vol 1: ISBN: 0534999182

Combined vol 1,2: ISBN: 0534997236

You can get the 5th or 6th edition cheaply online, and there is a mixed supply of probably all three editions at the bookstore.

#### *Calculator*

You will need an inexpensive calculator that has scientific functions such as trig, exponentiation, etc. Graphing calculators are not allowed on the exams, but may be used for homework.

#### *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 a new understanding of the physics of motion and to give you a greater ability to predict and control mechanical and thermodynamic systems. 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, simplicity and complexity of God's creations will increase.

**Course Web Page:** The Physics 105 homepage can be found at [physics.byu.edu](http://physics.byu.edu), then “Courses” then “Class Web Pages” and then Physics 105.

**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. 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. 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. Reading quizzes are 3 points if correct, one if incorrect (participation). 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: 3 if correct, 2 if incorrect. To allow for sickness and other emergencies, your three lowest days’ scores (reading quizzes combined with participation questions) will be dropped.

**Homework:** Please carefully read the detailed **description of online homework submission** which is a separate document, *Homework Submission*, found in this packet after the schedule sheet.

You are encouraged to work in groups. Of course the work you submit must be your own. Solutions to problems will be posted outside N361 ESC. To allow for emergencies or adding late to the class, you will be allowed to submit *four late* homework sets in the semester without penalty. Please see the *Homework Submission* section for late homework points beyond the first four late assignments.

For some homework problems you will need to draw free-body or vector diagrams to be able to work the problem correctly. We will practice these in class. Even though these are not submitted or graded, you need to learn to draw these and use them well. Get help from the tutorial lab when you have problems.

Practice good problem solving skills: write and draw neatly, using plenty of space. Draw diagrams of the problem. Substitute units with your numbers into your algebra, and check to see that the unit algebra makes sense.

Homework solutions will not be posted. Instead, get help from the tutorial lab to correct your mistakes before the retry period is over and resubmit.

**Tutorial Lab:** A physics tutorial lab is provided in N304 or N362 ESC. 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. From the 105 homepage you can also see who the 105 TAs are and see a map of tutorial lab locations. You can get help from any TA in the 105/121 tutorial lab, but 105 TAs have worked the problems you are doing.

**Exams:** Four midterm 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. We will give you a few important equations that must be learned, and a formula sheet will be provided on the exam for the other equations and data you will need.

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. (See sample exams)

**Exam Grading Appeals:** Contact your instructor if you have questions about the grading of your exam.

**Final Exam:** The final exam is similar to the midterm exams, but will be comprehensive, and will be machine graded. The final exam will be offered in the testing center anytime during Final Exam Week.

**Final Grades:**

Grades will be determined by the approximate weights:

Homework 30%	Exams 48%	Final 18%
Reading quizzes and class participation 4%		

Approximate grade breakdowns are:

A	93%	B+	84%	C+	71%	D+	45%
A-	88%	B	79%	C	60%	D	40%
		B-	75%	C-	52%	D-	35%

**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.