

DE ANZA COLEGE – PHYSICS 4A – WINTER 2012

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Office Hours: MWTH 2:20-2:50 PM, T 10:30-12:30PM, F 11:30 – 1PM
Lecture Hours: M-F 1:30-2:20PM (S34)
Lab Hours: MW 10:30-1:20PM (S11), TH 2:30-5:20PM
Final Exam Date: Tuesday, March 27 from 1:45– 3:45AM
Text: Physics for Scientists and Engineers (Vol. 1), 8th Edition, Serway/Jewett
Prerequisites: Physics 50 with a grade of C or better, or the equivalent (including high school physics); Completion of Math 1A with a C or higher and concurrent enrollment in Math 1B (or already completed).

Note: Last day to drop a class with a “W” is Friday, March 2. Students who do not drop by this date will be given the appropriate grade for their achievement in the class at the end of the quarter.

OBJECTIVE

This is a calculus-based course in Classical (Newtonian) Mechanics. The main objective of the course is for the student to understand the laws/theories and principles of Classical Mechanics (especially Newton’s Laws of Motion) in order to be able to describe the motion of a system so that we can better understand the physical world around us. Classical Mechanics is often divided into two parts:

- a) Kinematics – The description of the motion of an object without regard to the forces causing the motion. We will describe the motion of an object (system) moving in 1-D and 2-D.
- b) Dynamics – The description of the motion of an object with regard to the forces that cause the motion. We will use Newton’s Laws of Motion and other formulations to help us describe the motion of an object (system) with regard to the forces acting on an object.

In our study of Classical Mechanics we will analyze the kinematics and dynamics of systems moving in:

- a) Translational(Linear) Motion
- b) Rotational & Circular Motion
- c) Oscillatory Motion

In our study of kinematics we will learn how to analyze the motion of a particle in 1-D and 2-D. In dynamics we will learn to analyze the motion of a particle (system) by using Newton’s Laws of Motion and other formulations of such laws (Work and Kinetic Energy Theorem, Conservation Energy, Linear and Angular Momentum). Law of gravity will also be discussed.

ATTENDANCE

You are expected to be here at the beginning of each class, every day, for the rest of the quarter. If you miss four or more lectures you may find yourself dropped from the class. However, *it is your responsibility* to ensure being dropped or withdrawn from the course in order to avoid an “F” in the course if you stop attending lecture or lab.

HOMEWORK

Homework will be assigned on a regular basis but will NOT be collected. However, **it is your responsibility** to have the homework completed before the following lecture. It is essential to your success in this course that you put a solid effort into the homework. This is how you will learn physics and succeed in the class. (The quizzes you will be taking will generally be based on the homework and lecture material). If you are having difficulties with the class/homework, here are some things that I recommend to help you succeed in the class:

1. Ask for help during class and attend office hours
2. Work together and discuss problems with other students in the class
3. Math & Science Tutorial Center (Student Success Center).

On the homework, quizzes, as well as on the exams, you need to show all your work in complete detail in order to receive full credit. Your solutions should show your step-by-step process and logic that was used to obtain the answer. **No credit will be given if no work is shown even if you obtain the correct answer to the problem.** Answers to homework even problems will be posted on my homepage.

De Anza College Academic Integrity

"The following types of misconduct for which students are subject to disciplinary sanctions apply at all times on campus as well as to any off-campus functions sponsored or supervised by the college: cheating, plagiarism or knowingly furnishing false information in the classroom or to a college officer"

This statement implies that if a student intentionally copies another student's work or a 'solution manual' the student will be subject to disciplinary action.

QUIZZES

There will be a quiz every *Friday* at the end of class. The quizzes will generally represent that week's homework problems and lecture material. Therefore, it is to your advantage to attend every lecture and have **ALL** the homework completed. If you miss a quiz you will get a **ZERO** for that quiz. At the end of quarter the lowest quiz score will be dropped.

EXAMS

There will be three one-hour in-class exams and a comprehensive final. Exact dates for exams will be given at least four days prior to each exam. The exam format may be work-out problems, multiple-choice, conceptual, or a combination of the three. I will let you know before the exam if you can use calculators. The key to the success on the exams is preparation; **DO THE HOMEWORK**, attend the lectures, read the textbook and make sure you understand it, and ask questions if you don't understand. There are no make-up exams. If you miss an exam you will get a **ZERO** for that exam. Of the three one-hour in-class exams I will take the average of the lowest and highest score and replace the lowest with the average. You must take all three exams for me to replace the lowest exam score by the average of the lowest and highest!

Note: If there is a dispute in the grading of any exam homework, quiz, or exam I will consider looking at them a second time **only** if it is handed back to me **within 2 school days** after I return them.

GRADING

Grades will be based on the following components with the weights shown:

Quizzes	15%
Lab	20%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Final Exam	20%

Grades will be determined as follows:

88% ---> 100%	= A
76 %---> 87%	= B
65% ---> 75%	= C
54% ---> 64%	= D
0 ---> 53%	= F