

## DE ANZA COLLEGE-PHYSICS-4A-SPRING 2016

**Instructor:** Yufeng Sun  
**Email:** [sunyufeng@fhda.edu](mailto:sunyufeng@fhda.edu)  
**Office hours:** TTH 12:00 – 1:20 pm (S13)  
**Lecture hours:** MTWRF 1:30pm – 2:20pm (MCC-17)  
**Lab hours:** M 2:30pm – 5:20pm  
**Final exam:** Tuesday 6/21/2016 1:45pm – 3:45pm  
**Textbook:** Physics for scientists and engineers 9<sup>th</sup> edition by 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 May 27. 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 physics course. The main objective is for student to learn the fundamental principles and applications of classical mechanics, and basic laboratory experiments supporting the covered theoretical principles. After completing this course, students will be able to demonstrate knowledge of the following topics:

1. Determine the components of 1-D and 2-D motions (displacement, velocity, and acceleration).
2. Apply Newton's laws to solve dynamic problems.
3. Solve problems using work-energy theorem and mechanical energy conservation.
4. Use principles of impulse and momentum to solve problems.
5. Determine the location of the center of mass for rigid bodies.
6. Understand rotational kinematics and dynamics and the relationship between linear and rotational motion.
7. Solve static equilibrium problems by using force and torque equilibrium conditions.
8. Understand simple harmonic motions for spring-block and pendulum systems.
9. Describe the components of a wave and relate those components to mechanical vibrations, sound, and decibel level.
10. Articulate the principles of reflection, interference, and superposition of waves.

### **Attendance:**

You are expected to be in class at the beginning of each class. An attendance sheet will be passed at the beginning of class. If you miss signing the attendance sheet five 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 However, it is your responsibility to ensure being dropped or withdrawn from the course in order to avoid an "F" in the course if you stop attending lecture or lab.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 for each chapter will be assigned when we start the chapter and will be collected in due date. Each time, for about 30% of selected students, their homework will be graded based on

the correctness, completeness, and seriousness of their work. For those students whose homework is not graded, they will receive a full credit of their work. However, if you did very poor job (such as missing some problems, not showing details, copying somebody's work, and etc.), your homework will be graded although you are not initially on the selected list. If you do not turn in your homework on the due date, your score for that homework will be zero. No late homework will be accepted. At the end of quarter, the lowest homework score will be dropped.

**Quizzes:**

There will be a 10-minutes quiz every week. The quiz day will not be announced in advance. It can be any day in the week and starts at the beginning of the lecture. There will be one to two multiple choice problems in each quiz, which cover the materials in the two previous lectures. If you miss a quiz you will receive a zero for that quiz. There will be no make-up quizzes. At the end of quarter, the lowest quiz score will be dropped.

**Exams:**

There will be three in-class midterm exams and a comprehensive final. Exact dates for exams are indicated in the course schedule. If there is a date change for a scheduled midterm exam, you will be told at least four days in advance. The key to the success on the exams is preparation: read the textbook and make sure you understand it, ask questions if you don't understand, do the homework, and attend the lecture. There will be no make-up exams. If you miss an exam you will get a zero for that exam. At the end of quarter, the lowest midterm exam score will be replaced by the average of the three midterm exam scores. However, you must take all three midterm exams in order to replace the lowest exam score by the average of the three scores. Each midterm exam has 4 or 5 workout problems which need to be completed in 50 minutes. 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.

**Grading:**

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

Quizzes	15%
Midterm Exams	30%
Homework	15%
Lab	20%
Final	20%

Grades will be determined as follows:

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