

## DE ANZA COLLEGE – PHYSICS 50 14 – Winter 2025

**Instructor:** Ching-Yee Chang, PhD

**Email:** [changchingyee@fhda.edu](mailto:changchingyee@fhda.edu)

**Lecture Hours:** Tue, Thu 10:30 AM-12:20 PM

**Lecture Hall:** S35

**Zoom Office Hours:** Thu 4:30 PM-5:20 PM (Link will be provided on Canvas)

**Final Exam Date:** March 27<sup>th</sup> Thursday 9:15 AM-11:15 AM

**Text Book:** PHYSICS 5<sup>th</sup> Edition Vol. 1 by James S. Walker

**Prerequisites:** Mathematics 43 and Physics 10

**Calculator:** Any scientific calculator

### **OBJECTIVE**

This is an algebra-based course in Classical Mechanics. The course's main objective is for the student to understand the laws/theories and principles of Classical Mechanics and to be able to describe the motion of a system so that we can better understand the physical world around us. The foundation laws of Classical Mechanics are Newton's Laws of Motion. Thus, we can equivalently state that the main objective is for the student to learn and understand Newton's Laws of Motion from a conceptual and practical viewpoint. This course will also help you develop problem-solving skills as preparation for Physics 4A.

Classical Mechanics is often divided into two parts:

- A) Kinematics – The description of an object's motion without regard to the forces causing it. We will describe the motion of an object (system) moving in 1-D and 2-D.
- b) Dynamics – The description of an object's motion regarding the forces that cause it. We will use Newton's Laws of Motion to describe the motion of an object (system) with regard to the forces acting on it. In 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.

### **ATTENDANCE**

You are expected to be in class at the beginning of each class for the rest of the quarter. If you stop attending class for any reason, it is your responsibility to ensure being dropped or withdrawn from the course to avoid an "F" in the class.

### **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. If you are having difficulties with the class/homework, I strongly encourage you to:

1. Ask questions during class
2. See me at the end of class
3. Attend Tutorial Center

On the homework, quizzes, as well as on the exams, you need to show all your work in complete detail 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.

### **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”

Violating the Academic Integrity Policy will result in a grade of “F” in the class and the incident will be reported to the college disciplinary office.

### **QUIZZES**

There will be a chapter quiz after we finish each chapter, in the last ~20 min. of the next session after each chapter is finished. The quizzes will generally be based on homework and lecture material for the corresponding week. 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. NO MAKE-UP QUIZZES!

Note: If there is a dispute in the grading of any quiz, 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:

Chapter Quizzes	40%
Midterm (Chap1-3)	30%
Final (Chap 4-6)	30%
Bonus Points*	10%

\*Bonus Questions are those that I ask in class which are not part of Chapter quizzes and are usually requesting you to volunteer to answer them by stating the answers verbally.

Grades will be determined as follows:

A	88% --100%
B	76 % -- 87%
C	65% -- 75%
D	54% -- 64%
F	53% and below

### **COURSE SCHEDULE & LIST OF TOPICS**

Below is the tentative schedule of topics for the course. Please refer to the Modules page on Canvas for the most up-to-date schedule.

Chapter	Topic	Time (weeks)
Ch 1	Introduction to Physics	0.5
Ch 2	Kinematics in 1D	2
Ch 3	Vectors in Physics	2
Ch 4	Kinematics in 2D	2
Ch 5	Newton's Laws of Motion	2
Ch 6	Application of Newton's Laws	2
Ch 7	Work and Kinetic Energy	If time permits

Student Learning Outcome(s):

- Examine critically new, previously un-encountered problems, analyzing and evaluating their constituent parts, to construct and explain a logical solution utilizing, and based upon, the fundamental laws of mechanics.

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**Office Hours:**

Zoom	TH	4:30 PM	5:20 PM
Zoom	T	8:30 PM	9:20 AM