DE ANZA COLEGE – PHYSICS 4A – FALL 2021

Instructor:	Eduardo Luna
Email:	lunaeduardo@fhda.edu
Homepage:	http://faculty.deanza.fhda.edu/lunaeduardo
Office Hours:	MT 1:30 –2:20PM, W 10:30 – 11:20AM, TH 4:30 – 5:20PM, F 8:30 – 9:20AM. ZOOM link for office hours is provided on Canvas.
Lecture Hours:	M-F 9:30AM – 10:20AM. ZOOM link to the lectures is provided on Canvas. Lectures will be recorded and posted on Canvas.
Lab Hours:	Tuesday, 10:30AM-1:20PM (PHYS 4A.2Z) Thursday, 10:30AM-1:20PM (PHYS 4A.1Z)
Final Exam Date:	Tuesday, December 7, from 9:15 – 11:15AM
Text:	Physics for Scientists and Engineers (Vol. 1), 9th Edition, Serway/Jewett
Required:	Calculator any type
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, November 12. 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 in order 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. 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 to help us describe the motion of an object (system) with regard to the forces acting on an object.

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 in class at the beginning of each class for the rest of the quarter. In order to help you review for the quizzes and exams, the lectures will be recorded on ZOOM and posted on Canvas on a daily basis. If you stop attending class for any reason, it is your responsibility to ensure being dropped or withdrawn from the course in order 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. Attend ZOOM office hours
3. Attend Tutorial 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.**

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 quiz every Friday from 9:55AM – 10:20AM. The quizzes will be available in Canvas during this time. This is the time you have to download and upload the quizzes from Canvas. The quizzes will generally be based on homework and lecture material from 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!** Lowest quiz score will be dropped at end of quarter.

EXAMS

There will be three 50 minute in-class exams and a comprehensive lecture 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. Only one of the listed calculators can be used during the exam. 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. . At end of quarter I will take the average of the lowest and highest of the three in-class exams and replace the lowest with the average. You must take ALL 3 exams in order to replace the lowest exam score by the average!

Note: If there is a dispute in the grading of any 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	17%
Exam 1	17%
Exam 2	17%
Exam 3	17%
Final Exam	17%

Grades will be determined as follows:

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

Student Learning Outcome(s):

*Critically examine 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.
*Gain confidence in taking precise and accurate scientific measurements, with their uncertainties, and then with calculations from them, analyze their meaning as relative, in an experimental context, to the verification and support of physics theories.