Physics 2A Spring 2020

Section	PHYS-2A-03 & -04 CRN: 46703 & 46295
Lecture Instructor	Samuel MaQuilon
Email	maquilonsamuel@fhda.edu
Office Hours	Online. Please send me an email with questions. Or by phone.
Lecture Hours	Mon-Thurs 9:30-10:20am via Zoom/Canvas
Lecture Room	~~S35.~~ Online until further notice.
Textbook	Fundamentals of Physics, 9th/10th ed, Halliday, Resnick, Walker
Prerequisites Co-requisite:	Math 1A
Final Exam Date	Tuesday, June 23, 9:15-11:15 a.m.
SLO	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.

Topics

This course introduces Newtonian Classical Mechanics with limited calculus. Students should leave this course with an understanding of how to make mathematical models of systems of interest and then apply basic Newtonian principles to discover how these systems behave. This sort of quantitative reasoning is useful not only for understanding the physical world we see around us, but also in any technical field including engineering and computer science. We will cover kinematics, which is motion of objects in 1 and 2 dimensions with some knowledge of their accelerations and other quantities, but without regard to forces acting on them. This will include projectile motion, circular motion, and relative motion. We will also cover dynamics, which determines the motion of objects by reasoning about forces acing on them, using Newton's laws, study different types of forces, and introduce work, energy, and power. We will also study momentum, rotational motion, gravitation, oscillations, and waves.

Chapters covered in the Book:

Chapter 1: Intro & Measurement
Chapter 2: 1-D Motion & Kinematics
Chapter 3: Vector Analysis
Chapter 4: 2-D Kinematics & Projectile, Circular and Relative Motion
Chapter 5: Newton's Laws
Chapter 6: Frictional Forces, String and Springs
Chapter 7: Work & Kinetic Energy

Chapter 8: Potential Energy & Conservation of Energy
Chapter 9: Linear Momentum
Chapter 10: Rotation
Chapter 11/12: Torque & Angular Momentum
Chapter 13: Gravitation
Chapter 15: Oscillations
Chapter 16: Waves
Chapter 17: Sound Waves (If time permits)

Attendance

Online: Attendance will follow but will be conducted online. Please attend each Online session during the designated lecture hours.

In order to comply with federal guidelines De Anza College requires students to attend class and class attendance records to be kept. A student may miss a few classes for medical or personal reasons, however, **unexplained absence of more than 2 consecutive days or frequent absence may result in a student being dropped from the course**, and **unexcused missed quizzes cannot be made up**. Late arrivals count as absences at my discretion.

Homework

Online: Homework's will continue to apply. Please scan your HW and send to me by email. If you have trouble sending HW's by email, please let me know so we can arrange an alternative option. De Anza will be providing computer assistance to those in need of computers to complete the coursework for Spring Quarter. Please go to the DA Bookstore for more info.

I will be assigning selected homework's from each Chapter in the textbook that will count towards your grade. (See grading scale) All HW's are due on the designated due date. If you have an issue that prevents you from finishing a piece of homework on time, you must talk to me or email me about it at as soon as you realize it and least 1 day prior to the due date. I will consider each request on a case-by-case basis. No Late homework will be accepted. For the homework questions that are not selected to be turned in will not be collected nor count towards your grade, however, it is very important to work on both collected and uncollected homework's as part of your study! I have also worked out some example problems in the class notes which I will send you after every lecture. This will make concrete the ideas discussed in the lectures by allowing you to apply them immediately. If you have difficulty with the homework please send me an email and work together with other students or go to the Math and Science Tutorial Center (**Student Success Center**). Doing these problems will help you

prepare for the tests and quizzes! The set problems should not be viewed as the only problems you can do: you are strongly encouraged to look through all the problems at the end of each chapter and consider how each should be approached.

Quizzes

Online: There will be 3 take home quizzes. (Depending on in-person lecture status by De Anza.) The Quizzes will be emailed to each student and due by **12pm (noon) the same day (Or schedule 1 hour during the day to take the Quiz)**. It is your responsibility that your Quiz is scanned clearly and legibly and emailed to me directly **on or before** the due date. If you have trouble sending your exams by email, please let me know prior to the exam dates so we can arrange an alternative option.

There will be 3 quizzes on the material covered in the lectures. These quizzes will be given prior to the Midterms. The quiz questions will be based on homework questions or problems discussed in class.

Tests

Online: There will be 2 take home Midterms and a Final. (Depending on in-person lecture status by De Anza.) The Midterms & Final will be emailed/posted to each student after class and due by **2pm the same day**. **(Or schedule 2 hour during the day to take the Quiz)**. It is your responsibility that your Midterm & Final is scanned clearly and legibly and emailed to me directly **on or before** the due date. If you have trouble sending your exams by email, please let me know prior to the exam dates so we can arrange an alternative option.

There will be two in class Midterm Exams, in addition to the Final Exam. To do well on the Exams, please read the textbook, review the lecture notes and do the collected & uncollected homework problems. Note: If there is any dispute about marking, I will consider it only within two school days of the paper being returned to you. Grades for the final exam are final and not subject to dispute.

In-Class Practice Problems

Online: Skip this section.

I will occasionally give you an exercise problem that we will do in class together. Although it will not be graded, you will be turning them in at the end of class. These problems will contribute to extra credit points.

Cheating

In the case that a student is found to be cheating on a piece of work or test, the grade for that will be zero. Plagiarism, which includes copying answers found on the internet, is cheating. You

are encouraged to use resources you find online, but you must write up answers on your own, in your own style, and you must understand what you are writing.

Important Dates

Online: See De Anza website for updates.

April 26, Last day to drop classes without a "**W**"
May 8, Last day to request "Pass/No Pass" for 12-week classes
May 23-25, Memorial Day Weekend - Campus Closed
June 5, Last day to drop classes with a "**W**"

Evaluation

Quizzes 16%
HW 4%
Midterms 32% (16% each)
Labs 16%
Final 32%

Projected Grading Scheme:

96% → 100% = A+
90% → 95.9% = A
88% → 89.9% = A-
86% → 87.9% = B+
78% → 85.9% = B
76% → 77.9% = B-
74% → 75.9% = C+
65% → 73.9% = C
54% → 64.9% = D

0% → 53.9% = 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

*In order to test lab skills students are expected to 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.