Physics 4A Spring 2017

Instructor: Carrie Huang

Email: huangcarrie@fhda.edu

Class Time: Mon, Tue, Wed, Thu, Fri 1:30 pm – 2:20 pm

Classroom: S35

Office: S 13

Office Hours: Tuesday 4:10 pm – 5:25 pm and Thursday 2:25 pm – 3:15 pm

Final Exam: June 27, 1:45 pm – 3:45 pm -watch out! Finals will not be given earlier or later.

Textbook: Physics for Scientists and Engineers (Vol. 1), 9th Editio, by Serway/Jewett.

COURSE DESCRIPTION:
This course covers Newtonian Classical Mechanics using 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. 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. We will also introduce work, energy, linear and angular momentum, torque, rotational motion, simple harmonic motion, and gravitation.

STUDENTS LEARNING OBJECTIVES:

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.

1. Solve problems involving accelerated motion using equations of kinematics.
2. Predict the position and velocity of an object if all external forces acting on it are known.
3. Predict the position and speed of an object subjected to conservative and non-conservative forces.
4. Analyze the motion of rolling and spinning masses.
5. Employ the principle of the harmonic oscillator to solve more complex systems such as vibrating molecules.
6. Apply the concepts of gravitational force and potential energy to predict the trajectory of objects.

 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).

ATTENDANCE:
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 will result in a student being dropped from the course, and unexcused missed quizzes cannot be made up. **NO make-up exams will be given, PERIOD.**

HOMEWORK ASSIGNMENTS:
Homework will be assigned after each class. It is very important to do homework! If you have difficulty with the homework you can come to my office hours, work together with other students, or go to the **Math and Science Tutorial Center (Student Success Center).** The set problems should not be viewed as the only problems you can do: you are strongly encouraged to look through all of the problems at the end of each chapter and consider how each should be approached. Practicing with many problems is the key to master the concept and ace in exams.

STUDENT SUCCESS CENTER: http://www.deanza.edu/studentsuccess/

Deanza college has excellent tutoring services and I highly recommend that every student get regular tutoring if she / he needs it, or even if you don't need it. I will also try to set up group tutoring session by asking about the times that they are available. The tutorial center in S43 can often find a tutor for a group session. During summer session tutors may not be available.

QUIZZES:

There are seven (6) quizzes. The quiz questions will be homework problems. Make sure you do the homework, so you can do well on the quizzes! **Your lowest quiz score will be dropped.** No make ups for quizzes will be given. If you miss a quiz consider this to be your throw out.

EXAMS:
There will be two mid-term exams and one comprehensive final exam. All exams are closed book! To pass the class, you must take all the exams. **There are NO make-up exams**. If you miss an exam, you will get zero (0) point for that exam. Dates: TBD

ACADEMIC HONESTY POLICY :
Cheating consists of receiving or giving unauthorized aid during exams or duplicating and handing in assignments for absent students. It is acceptable to collaborate on Homework, Activities in Class, including Labs, but not on Exams. You must hand in your own written work. First offense will lead to zeros on the assignment or exam involved. Repeat offenses will lead to administrative involvement. Note that a zero on an exam will likely result in a failing grade.

DISRUPTIVE BEHAVIOR:

The college will enforce all policies and procedures set forth in the Standards of Student Conduct (see catalog). Any student disrupting the class may be asked to leave that class. Administrative follow-up may result.

GRADING:

Maximum 1000 points can be earned in this class.

90%-100%, 900 – 1000 points ➔ A (97%-100% A+, 90%-92% A-)

80%-89%, 800 – 899 points ➔ B (87%-90% B+, 80%-82% B-)

65%-79%, 650 – 799 points ➔ C (77%-80% C+, 65% - 76% C)

50%-64.9%,   500 – 649 points ➔ D

50% or lower, 499 points or less ➔ F

2 Exams: 30%,	(10% each. 150 points each, total 300 points)
6 Homework Quizzes: 25%	(5% each. 50 points each. Only pick 5 highest scores. Total 250 points)
Lab: 15%	(150 points.)
Final Exam: 30%	(Final exam will be comprehensive. 300 points)

EXTRA CREDIT

You can receive up to 5% extra credit (50 points) during class.   Extra credit will be only given in class. You must participate to earn. No make-up for extra credit, PERIOD.

IMPORTANT DATES

4/22 (Sat)	Last day to add
4/23 (Sun)	Last day to drop with full refund and no record of grade
5/5 (Fri)	Last day to request pass/no pass grade
6/2 (Fri)	Last day to drop with "W"
6/27 (Tue)	Final Exam

Tentative Schedule:

The Instructor reserves the right to change the schedule.

4/10/17 Mon	4/11/17 Tue	4/12/17 Wed	4/13/17 Thu	4/14/17 Fri
Introduction	Chapter 1	Chapter 2 Lec 1	Chapter 2 Lec 2	Chapter 3
4/17/17	4/18/17	4/19/17	4/20/17	4/21/17
Chapter 3 Prac.	Chapter 4 Lec 1	Chapter 4 Lec 2	Chapter 4 Lec 3	Chapter 4 Prac.
4/24/17	4/25/17	4/26/17	4/27/17	4/28/17
Quiz #1	Chapter 5 Lec 2	Chapter 5 Lec 3	Chapter 5 Lec 4	Chapter 6 Lec 1
Chapter 5 Lec 1				
5/1/17	5/2/17	5/3/17	5/4/17	5/5/17
Quiz #2 +	Chapter 6 Lec 3	Chapter 6 Lec 4	Chapter 6 Lec 5	Review
Chapter 6 Lec 2				
5/8/17	5/9/17	5/10/17	5/11/17	5/12/17
Exam #1	Solutions	Chapter 7 Lec 1	Chapter 7 Lec 2	Chapter 7 Lec 3
5/15/17	5/16/17	5/17/17	5/18/17	5/19/17
Quiz #3 +	Chapter 8 Lec 1	Chapter 8 Lec 2	Chapter 8 Lec 3	Chapter 8 Lec 4
Chapter 7 Lec 4				
5/22/17	5/23/17	5/24/17	5/25/17	5/26/1**7**
Quiz #4 +	Chapter 9 Lec 2	Chapter 9 Lec 3	Chapter 9 Lec 4	**Review**
Chapter 9 Lec 1				
5/29/17	5/30/17	5/31/17	6/1/17	6/2/17
Memorial Day	Exam #2	Solutions	Chapter 10 Lec1	Chapter 10 Lec2
6/5/17	6/6/17	6/7/17	6/8/17	6/9/17
Quiz #5 +	Chapter 10 Lec4	Chapter 11 Lec1	Chapter 11 Lec2	Chapter 11 Lec3
Chapter 10 Lec3				
6/12/17	6/13/17	6/14/17	6/15/17	6/16/17
Quiz #6 +	Chapter 15 Lec2	Chapter 15 Lec3	Chapter 13 Lec1	Chapter 13 Lec2
Chapter 15 Lec1				
6/19/17	6/20/17	6/21/17	6/22/17	6/23/17
Review	Review	Q/A	Q/A	Q/A
6/26/17	6/27/17	6/28/17	6/29/17	6/30/17
Q/A	Final 1:45-3:45			