

Physics 4A: Syllabus

Winter 2020

Class Details:

6 units

Lecture Mon/Wed 5:30pm-7:45pm, room FOR4

Lab Wed 8:00- 10:55pm, room S11

Instructor:

Megan Ulbricht

Email:

ulbrichtmegan@fhda.edu

Office Hours:

Mon and Wed 4:30pm-5:20pm

January 8 - March 18

Room: S13

Final Exam:

Monday March 23, 2020 6:15pm-8:15pm in FOR4

Text:

Physics for Scientists and Engineers, 9th edition, volume 1 by Serway and Jewett

You will have the option of purchasing the eText with the WebAssign online homework submission program. **A physical copy of the text is not required.**

Course Description:

This course serves as an introduction to the basic laws and theories of classical mechanics. The topics covered in this course include kinematics in one and two dimensions, vectors and trigonometry as they relate to the physical world, Newton's Laws of motion, work, conservation of energy and momentum, rotational kinematics and dynamics, equilibrium of rigid bodies, gravitation, and oscillations.

Important Dates:

January 19, Last day to drop a class

January 20, Martin Luther King Jr. Holiday, campus closed

February 14-17, President's Holiday, campus closed

February 28, Last day to drop with a "W"

Course Grade Distribution:

Homework	15%
Midterm I	20%
Midterm II	20%
Participation	3%
Final Exam	30%
Lab	12%

Letter Grade Distribution:

Percent	Grade	Grade Points
>98%	A+	4.0
92% - 97.9%	A	4.0
90% - 91.9%	A-	3.7
88% - 89.9%	B+	3.3
82% - 87.9%	B	3.0
80% - 81.9%	B-	2.7
78% - 79.9%	C+	2.3
70% - 77.9%	C	2.0
68% - 69.9%	D+	1.3
62% - 67.9%	D	1.0
60% - 61.9%	D-	0.7
<60%	F	0.0

Exams:

There will be two midterms and one comprehensive final. The exams will include a multiple choice and a free response section. You may use any calculator that you would like, with the exception of a cellphone calculator, as well as a 3" x 5" notecard containing any equations/notes that you find helpful. **There are no make up exams.**

If you do better on the final exam than one or both of your midterms, I will average your final exam score and your lowest midterm score and replace your midterm score with that value. For example, if your lowest midterm score is a 60% and you get an 80% on the final exam, I will replace the 60% with $(60\% + 80\%)/2 = 70\%$.

Homework:

Homework will be submitted online via WebAssign. There is a link on Canvas to get started with the program. Homework done on paper will not be accepted.

Participation:

At some point during each lecture I will give a short quiz relating to current material or pass around a sign-in sheet. The participation portion of your grade is based on whether or not you take part in these quizzes/sign in. The quizzes are not graded. You may miss up to two classes and still get full credit on the participation portion of your grade.

Lab:

You will be responsible for printing and reading the lab assignment, which will be posted on Canvas, before coming to lab each week. Experiments and analysis will be completed and turned in by the end of each lab session.

Attendance is mandatory. You may be dropped from the class if you have more than one unexcused absence in lab. Absences will be excused only in the case of serious injury or illness or other serious events, at my discretion. Notification of a forthcoming absence should be given prior to the missed lab.

Academic Integrity:

Cheating will result in a score of 0 on the assignment or exam in question. Further disciplinary action may be taken on a case by case basis.

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.