

Physics 4A Syllabus

Fall 2020

Class Details:

6 units
Lecture Mon/Wed 5:30pm-7:45pm, online
Lab Wed 7:55- 10:45pm, online

Instructor:

Megan Ulbricht

Email:

ulbrichtmegan@fhda.edu

Office Hours:

Mon and Wed 4:30pm-5:20pm, online
Sept. 23 - Dec. 7

Final Exam:

Monday Dec. 7, 2020 6:15pm-8:15pm, online

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.**

Other Required Materials:

Since this class is online, **a reliable internet connection is essential.** Additionally, a webcam or a laptop with a camera is required for test taking.

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:

Oct. 4, Last day to drop a class
Nov. 11, Veteran's Day, campus closed
Nov. 13, Last day to drop with a "W"
Nov. 26-29, Thanksgiving holiday, campus closed

Course Grade Distribution:

Homework	15%
Midterm I	20%
Midterm II	20%
Final Exam	30%
Lab	15%

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 with the free response section accounting for the bulk of the points. The grading on the multiple choice section is all-or-nothing. Partial credit will be awarded where appropriate on the free response problems.

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 perform better on the final exam than one or both of the 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 $(60\% + 80\%)/2 = 70\%$.

Exams will be proctored via Zoom. You will be required to turn your camera on during the exams and position your camera so that I can see your workspace. This arrangement requires some maneuvering- I will share some tips in class prior to the first exam.

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.

Because we are using a version of WebAssign that is integrated with Canvas, you **must login to WebAssign through Canvas**. If you go directly to the WebAssign site you will be unable to access the course. There is no “class key” associated with our WebAssign course.

Any homework problem done more than 24 hours before the due date will be awarded 5% extra credit. You do not need to *finish* the assignment 24 hours before the due date, the extra credit will be applied to individual problems. This will be the only extra credit opportunity so take advantage!

Late homework will be accepted up to 1 week past the original due date. Send homework extension requests by email or Canvas messenger. **I do not check messages or extension requests on WebAssign.**

Lab:

Most of the labs will be done online using PhET simulations created at the University of Colorado at Boulder. Others may involve videos of experiments with accompanying data to analyze. Either way, work will be submitted via Canvas by noon the following day.

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 event, at my discretion. Notification of a forthcoming absence should be given prior to the missed lab. You must attend the lab section in which you are enrolled.

The lowest lab score will be dropped.

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.

Extra Credit:

As mentioned above, the **only** extra credit offered in this course is the 5% extra credit on homework problems submitted more than 24 course before the original due date. If you are unhappy with your grade at the end of the course and contact me requesting extra credit I will direct you to this part of the syllabus.

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.