

## DE ANZA COLLEGE – PHYSICS 4C – WINTER 2026

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<b>Instructor:</b>	<b>Dr. Ramin Alizadeh</b>
<b>Email:</b>	<b>alizadehramin@fhda.edu</b>
<b>Lecture Hours:</b>	<b>Mondays and Wednesdays (5:30pm - 7:45pm)</b>
<b>Classroom:</b>	<b>ADM 102</b>
<b>Textbook:</b>	<b>Physics for Scientists and Engineers (Vol. 1), 10<sup>th</sup> Edition, Serway /Jewett</b>
<b>Office Hours:</b>	<b>Mondays 4:50- 5:30pm (ADM 102)</b>

### **OBJECTIVE**

This course covers: **Fluid Mechanics** (pressure, Archimedes' Principle, Bernoulli's equation); **Thermodynamics** (temperature, the zeroth, first and second laws of thermodynamics, thermal expansion, the ideal gas law, calorimetry, kinetic theory of gases, heat engines, entropy); **Mechanical Waves** (traveling waves, wave on a string, sound waves, wave interference, standing waves, doppler effect); **Optics** (geometric optics, reflection, refraction, image formation, single and double slit interference, polarization).

### **STUDENT LEARNING OUTCOMES**

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 fluids, thermodynamics, waves and optics.

### **REQUIRED TEXTS / READINGS**

#### **Textbook**

Title: Physics for Scientists and Engineers (Vol. 1), 10<sup>th</sup> Edition  
Authors: Serway /Jewett  
Publisher: Cengage Learning

**WEBASSIGN + eBook: Physics for Scientists and Engineers (Vol. 1), 10<sup>th</sup> Edition**

Cengage has experts available to help walk you through the complete registration of your eBook. Feel free to join any day to ask your questions or learn more about these course materials.			
<b>Cengage support options:</b>	<b>Textbook Zoom Office Hours for Students:</b>		
<a href="tel:1-800-354-9706">Tel:1-800-354-9706</a>	<b>Date</b> <b>M-W-F</b>	<b>Time</b>	<b>Link</b>
<a href="#">Chat Support and Online Self-Help Support Services to Create a Case</a>		12pm -2pm	<a href="https://www.cengage.com/coursepages/Office_Hours_Qtr_F23">https://www.cengage.com/coursepages/Office_Hours_Qtr_F23</a>

## ATTENDANCE

You are expected to be in class at the beginning of each class for the rest of the quarter. If you stop attending the class it is your responsibility to ensure being dropped or withdrawn from the course in order to avoid receiving an "F" in the course.

## HOMEWORK

Homework will be assigned on a regular basis. It is essential to your success in this course that you put a solid effort into the homework. The assignments will be accessed through **Cengage Learning's WebAssign** learning system. Access to **WebAssign** will require an access code to be purchased. Homework assignments are worth **15%** of the final grade.

## EXAMS

There will be two **Mid-terms** in-class exams (2 hours in duration for each) and a comprehensive **Finals** exam (2 hours in duration). Mid-terms are worth **20%** each and the finals is worth **30%** of the total grade. 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. 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.

## **DISRUPTIVE BEHAVIOR POLICY**

Any disruptive behavior during class will NOT be tolerated. If a student is in any way disruptive during the class, the student will be given a warning. If the problem continues, the student will be asked to leave the class and a formal disciplinary report will be filed with the college disciplinary officer. The incident will be recorded in your college record and will be sent with your transcripts to any university/college requesting student records.

## **ELECTRONIC DEVICE POLICY**

Phones need to be set on 'silent' mode to avoid disturbing other students in the class. Phones or any other electronic device cannot be used to take video of any lecture material during class. Note-taking electronic devices are permitted with instructor's prior permission.

## **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.

## **DISABILITY SUPPORT PROGRAMS AND SERVICES**

Students who have been found to be eligible for accommodations by Disability Support Services (DSS), please follow up to ensure that your accommodations have been authorized for the current quarter. If you are not registered with DSS and need accommodations, please go to the DSS office in the Registration & Student Services Building (RSS) – Room 141 for information on eligibility and how to receive support services. You can also go online to <https://www.deanza.edu/dsps/> [Links to an external site.](#) for additional information.

## **GRADING**

Grades will be based on the following components with the weights shown:

Assignments:	15%
Exam 1:	20%
Exam 2:	20%
Lab:	15%
Final Exam:	30%

### **Grades will be determined as follows:**

87% ---> 90% = A-	91% --->100% = A
75% ---> 79% = B-	80% ---> 86% = B
65% ---> 69% = C-	70% ---> 74% = C
51% ---> 59% = D-	60% ---> 64% = D
0 ---> 50% = F	

### **Here are some tips to succeed in the class:**

1. Attend the classes
2. Take good notes
3. Do the homework and read the textbook assigned sections
4. Ask if you don't understand a concept and attend office hours

## PHYS 4C SCHEDULE

This is a preliminary schedule. It will be changed during the semester based on class progress. Any changes to the schedule will be announced during class or through canvas.

<b>Week</b>	<b>Date</b>	<b>Topics, Readings, Assignments, Deadlines</b>
1	January 5	Syllabus Chapter 14: Fluid Mechanics
1	January 7	Chapter 14: Fluid Mechanics
2	January 12	Chapter 18: Temperature Chapter 19: First Law of Thermodynamics
2	January 14	Chapter 19: First Law of Thermodynamics
<b>3</b>	<b>January 19</b>	<b>Holiday – no classes</b>
3	January 21	Chapter 20: Kinetic Theory of Gases
4	January 26	Chapter 20: Kinetic Theory of Gases
4	January 28	Chapter 21: Heat Engines, Entropy & Second Law of Thermodynamics
5	February 2	Chapter 21: Heat Engines, Entropy & Second Law of Thermodynamics Chapter 16: Wave Motion
<b>5</b>	<b>February 4</b>	<b>Exam 1 (Ch 14, 18, 19, 20, 21)</b>
6	February 9	Chapter 16: Wave Motion
6	February 11	Chapter 17: Superposition and Standing Waves
<b>7</b>	<b>February 16</b>	<b>Holiday – no classes</b>
7	February 18	Chapter 34: The Nature of Light and Principles of Ray Optics
8	February 23	Chapter 34: The Nature of Light and Principles of Ray Optics
8	February 25	<b>Exam 2 (Ch 16,17,34)</b>
9	March 2	Chapter 35: Image Formation
9	March 4	Chapter 35: Image Formation
10	March 9	Chapter 36: Wave Optics
10	March 11	Chapter 36: Wave Optics
11	March 16	Chapter 37: Diffraction Patterns and Polarization
11	March 18	Review
<b>Final Exam</b>	<b>Monday, March 23</b>	<b>6:15 pm to 8:15 pm (Cumulative)</b>

**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 waves, fluids, optics, and thermodynamics.
- Acquire 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.

**Office Hours:**

ADM 102      M      4:50 PM - 5:30 PM