

## Physics 2C Course Syllabus

<b>Instructor:</b>	Ellen Judd
<b>Lecture:</b>	Mon Tues Wed Thurs 1:30-2:20 PM, Room S17
<b>Lab:</b>	Tues 2:30-5:20
<b>Office Hours:</b>	Monday 12:30-1:15 PM room S13, Thurs 12:30-1:15 room S17 Additional office hours by request.
<b>Contact Info:</b>	<a href="mailto:juddellen@fhda.edu">juddellen@fhda.edu</a> or 650-248-8931 (Please no texts after 10 PM. Feel free to email any time.)
<b>Class Website:</b>	Canvas: <a href="https://deanza.instructure.com">https://deanza.instructure.com</a> or use the link on MyPortal Use the same login ID and password you use for MyPortal

### Required Text & Materials:

1. *Fundamentals of Physics* Halliday, Resnick, and Walker 9<sup>th</sup> or 10<sup>th</sup> edition.
2. Scientific Calculator (should cost about \$10) – a graphing calculator is OK but not necessary

**Homework:** Homework problems will be assigned weekly. Working through these problems is crucial for understanding the material in this course, and for doing well on the exams. Students are encouraged to work together on the homework. However, it is not acceptable to simply copy another student's work. If asked, students should be able to explain how they reached their answer for each homework problem. The lowest homework score will be dropped. This is meant to allow some flexibility for personal emergencies. Late homeworks will be marked down by 10% per day late, but not by more than 50%.

**Attendance and Participation:** Students are expected to attend class and to participate. Participation grade will be based on attendance and engagement during in-class activities. Participation will be graded on the effort and engagement shown during class, rather than on answering questions correctly. Students may miss two classes without affecting their participation grade. If a student misses a lecture, he/she will be responsible for learning the missed material from the textbook, and for getting and completing the homework assignment for the week. **Students must attend class on exam days.**

**Classroom expectations:** Treat others with respect at all times. You should be engaged with learning physics during the entire class period. Please turn off and put away all electronic devices before the start of class.

**Exams:** There will be three midterm exams, a final exam, and a project. Exams will include short-answer questions and calculations similar to homework problems. A missed exam results in a zero for that test. I do not reschedule exams for any reason. Your lowest exam score will be replaced by your final grade, if it helps you. Students will need a scientific calculator for exams (not a phone) and will be allowed one piece of paper with equations on it during exams. You must take the final to pass the class.

**Academic Integrity:** A score of zero will be given on any assignment/test where cheating is involved. Any cheating will also result in a referral to college administration. For this class cheating means: (1) providing to

other students answers or partial answers to exam questions (2) obtaining from other students answers or partial answers to exam questions, and (3) obtaining information or direct answers from unauthorized materials during exams. Students who need help in understanding exam questions should consult with me to avoid the appearance of cheating. Please note that you are encouraged to work with your fellow students on homework assignments. A calculator is the only electronic device you may use on a quiz or exam.

**Dropping and Changing Grading Options:** It is the student’s responsibility to drop if they no longer want to take the class. It is the student’s responsibility to be aware of deadlines for dropping the class and for changing grading options.

**Disability Statement:** Any student who feels he or she may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. I will work with the Disability Resource Center to coordinate reasonable accommodations for students with documented disabilities. For best results this should be addressed as soon as possible.

**Office Hours:** I enjoy working one-on-one with students in office hours. I can help with a problem you are stuck on, strategize about productive study habits, or discuss extensions and applications of concepts learned in class. I encourage you to come and meet with me during office hours. If the posted times don’t work for you, let me know and I will do my best to find a time to meet.

I know that you can all be successful in this course if you attend lectures, work homework problems, participate strongly in class, work additional problems, ask questions, and work more problems. I am looking forward to a great quarter!

**Course Grade:** Your final grade will be based on the total number of points you receive for the following:

<u>Item</u>	<u>Points</u>
Laboratory	150
Homework	120
Class Participation/Attendance	100
Exam 1	110
Exam 2	110
Exam 3	110
Finding Physics project	50
Final Exam	250

IMPORTANT – You must take the final to pass the class.

I may adjust the curve based on the class results. However, I strive for:

A+: for extraordinary achievement	A: 93% - 100%	A-: 90-92%
B+: 88-89%	B: 83-87%	B-: 80-82%
C+: 78-79%	C: 73-77%	C-: 70-72%
D: 60-69%	F: < 60%	

**Schedule of Classes – Exam dates are fixed but the topics covered each week are subject to change**

April 8-11

Fluids  
Lab: Introduction to the Lab

April 15-18

Optics - Images  
Lab: Density and the buoyant force

April 22-25

Optics - Interference  
**Thurs April 25 Exam 1**  
Lab: Geometrical Optics (Finding the focal length of a thin lens)

April 29- May 2

Optics - Diffraction  
Lab: Wave Optics I (Single Slit Diffraction)

May 6-9

Thermodynamics – Temperature, Heat, and the First Law  
Lab: Wave Optics II (Double Slit Interference)

May 13-16

Thermodynamics – Kinetic Theory  
**Thurs May 16 Exam 2**  
Lab: Microwave Optics I (Single Slit Diffraction revisited)

May 20-23

Thermodynamics – Entropy and the Second Law  
Lab: Microwave Optics II (Bragg Diffraction)

May 27-30

Relativity  
**No Class May 27**  
Lab: Atomic Spectra

June 3-6

Quantum Mechanics  
**Thurs June 6 Exam 3**  
Lab: Atomic Spectra continued

June 10-13

Quantum Mechanics

Lab: The E/M experiment (finding the ratio of an electron's charge to its mass)

June 17-20

Finding Physics Presentations

Review

Lab: Final

Tues June 25 Final Exam 1:45-3:45

**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 optics, thermodynamics, fluids, and modern physics.

\*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.