Physics 1A, Sections A & B: Mechanics

Instructor: Prof. Elena Koslover, 7250 Urey Hall
Office hours: Wed 4pm-5pm, Thurs 3:30-5pm (subject to change)
ekoslover@ucsd.edu

Teaching Assistants: Nathan Butcher (Section A) and Shubham Parashar (Section B)
Office Hours: 9-10am, SERF 329 (Nathan; nbutcher@ucsd.edu)
Office Hours: ???, Location ??? (Shubham; psparash@ucsd.edu)

Course Coordinator: Antoinette (Toni) Moore, 2581 Mayer Hall Addition
http://vac.ucsd.edu

Class Schedule: Lectures on MWF 2-2:50pm, 2722 York Hall
Problem sessions (Section A): Tues 4-5pm MYR-A 2702, Thurs 10-11am MYR-A 2623
Problem sessions (Section B): (day/place TBD) 7-8pm, Friday 4-5pm; MYR-A 2702
Quizzes on Mon 10/14, Mon 10/28, Mon 11/18, Mon 12/2
Final on Wed 12/11 (Section A) and Fri 12/13 (Section B), 3pm-6pm, 2722 York Hall.

Textbooks: (required) Kudu online textbook. `kudu.com` Course ID: pwv7wk
(optional) Serway and Jewett, Principles of Physics, 5th edition (rented or used is fine)

Course Format: Physics 1 A-B-C is a lecture course covering mechanics, electricity and magnetism, waves and modern physics. This sequence is targeted to life sciences majors and is not suitable for students majoring in Physics, MAE, ECE or CSE. Other majors should check with their departments for the appropriate sequence. Physics 1A deals with Newtonian mechanics.

Prerequisites: Math 10AB or 20AB (can take concurrently). Laboratory course Phys1AL should be taken concurrently.

Canvas Website: Course website on `canvas.ucsd.edu` will have all posted materials, including lecture notes, quiz solutions, practice quizzes, supplemental reading and/or videos.
Grades will be posted on this site.

Homework: We will have weekly, online graded problem sets in Kudu. You must purchase access (Course ID: pwv7wk). Cost: $25 first quarter, $75 full year
See calendar below for due dates. Worked solutions will be available on Canvas and/or Kudu after the due date.

Piazza: `piazza.com/ucsd/fall2019/physics1aa1ab`
Piazza will serve as a forum and message board for class-related discussions. Feel free to post any questions about the material and/or the class here. Aside from personal inquiries, this is the best way to get your physics and logistics questions answered (better than email). Instructor and TA will check the board regularly to reply to questions. Please also help answer others' questions when you are able. You may post anonymously if you like, but please keep the discussion professional.

Exams: Quizzes and final are in class, closed book. Calculators allowed, but no phones, tablets, etc.
Equation sheet will be provided (posted with practice quiz on Canvas)
There will be no make-up quizzes. If you must miss a quiz you will have the opportunity to make up the points on the final exam (see Grading policy)
You must bring your own scantron and No.2 pencil.
Scantron form: F-289-PAR-L, available for purchase at the bookstore.
Final will cover all course material.

Clickers: We will by using the i>Clicker system for real-time feedback and problem-solving together during lectures. You are highly encouraged to brink a clicker to class and to respond to the clicker questions, as this is the best way to cement your understanding during lecture and provide feedback both to yourself and the instructor on whether you understand the material. Clicker responses will not be graded.

Grading: We will be using an unorthodox grading system where only correctly answered quiz and homework questions count toward your grade.
Every point on the homework contributes 0.1% of your grade. (Max total roughly 20%)
Each correct quiz answer contributes 1% of your grade. (Max total 40%)
The remaining grade percentage (between 40% to 100%) is determined by the final.
This means that if you miss a quiz or do poorly, **but** you study up and learn the material in time for the final exam, your final grade will not be adversely affected.
Final grading rubric will be: 90% for A, 75% for B, 60% for C, 45% for D. $\pm$ grades will be assigned at instructor's discretion for scores near the boundaries.
Grades will not be curved (your grade does not depend on how other students do).
Warning: this grading system relies on a certain level of maturity on the part of the student. Learning physics is very much a cumulative process. If you do not do the work over the course of the quarter, you will fall massively behind and will do poorly on the final (and in future physics classes!). Use the homework and quizzes to make sure you are learning the material, and to take weight off the final so that it is a less stressful experience.

Get help: Attend the problem sessions to get practice with physics problem-solving. You should **choose one** of the 4 available problem session times to attend.
Individual assistance is available during TA and instructor office hours.
The Physics Department tutorial center (Mayer 2218) is open M-F 11am-7pm, Sun 1-7pm)

Students with disabilities: Students with a verified disability may be entitled to appropriate academic accommodations. Please contact the Office for Students with Disabilities (858.534.4382 or via email at osd@ucsd.edu).

Add / drop: Use WebReg to add/change/drop, drop from waitlists. See Sharmila Poddar (534-3290; spoddar@physics.ucsd.edu) in the Physics Department, Student Affairs Office, Mayer Hall Addition, Room 2561, if you have any problems with WebReg. If you need advice, see the TA or the instructor, but they **do not** sign any cards.

Acad. dishonesty: Please read UC Policy on Integrity of Scholarship in the UCSD General Catalog. While you are encouraged to work together and discuss on the homework, you should fully understand your own answer before submitting. Copying homework answers off of your friends will not help you learn the material and will result in very poor outcomes on exames. Quizzes and the final exam must be your work entirely.

(Tentative) Class Calendar

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9/23	24 Prob Session(2): 4-5pm PS/OH 7-8pm	25	26	27 **L1** Prob Session(2): 4-5pm Ch.1-2: Intro, units, estimates
30 **L2** Ch.1-2: Scaling and dimensions	10/1 Prob Session(2): 4-5pm PS/OH 7-8pm	2 **L3** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.3: Kinematics, velocity, acceleration	3 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	4 **L4** Prob Session(2): 4-5pm HW 1: Ch. 1-3 due Ch.3: Kinematic equations, free fall
7 **L5** Ch.4: Vectors and trigonometry	8 Prob Session(2): 4-5pm PS/OH 7-8pm	9 **L6** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.4: 2D motion	10 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	11 **L7** Prob Session(2): 4-5pm HW 2: Ch. 3-4 due Ch.5: Forces, Newton
14 **Q1** Quiz 1: Ch. 1-4	15 Prob Session(2): 4-5pm PS/OH 7-8pm	16 **L8** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.5: Force diagrams, common forces	17 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	18 **L9** Prob Session(2): 4-5pm HW 3: due **Sunday** Ch.5: Problem solving with forces
21 **L10** Ch.5: Friction, viscosity	22 Prob Session(2): 4-5pm PS/OH 7-8pm	23 **L11** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.5: Springs, elasticity	24 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	25 **L12** Prob Session(2): 4-5pm HW 4: Ch. 5 due Ch.6: Work and energy
28 **Q2** Quiz 2: Ch. 5	29 Prob Session(2): 4-5pm PS/OH 7-8pm	30 **L13** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.6: Potential energy	31 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	11/1 **L14** Prob Session(2): 4-5pm HW 5: Ch. 6 due Ch.6: Energy conserv.
4 **L15** Ch.6: Power	5 Prob Session(2): 4-5pm PS/OH 7-8pm	6 **L16** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.7: Momentum and impulse	7 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	8 **L17** Prob Session(2): 4-5pm HW 6: Ch. 6-7 due Ch.7: Momentum conservation, collisions
11 No class: Veteran's Day	12 Prob Session(2): 4-5pm PS/OH 7-8pm	13 **L18** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.7: particle systems, center of mass	14 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	15 **L19** Prob Session(2): 4-5pm HW 7: Ch. 7 due Ch.8: Circular motion
18 **Q3** Quiz 3: Ch. 6-7	19 Prob Session(2): 4-5pm PS/OH 7-8pm	20 **L20** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.8: Centripetal force	21 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	22 **L21** Prob Session(2): 4-5pm Ch.9-10: Torque and equilibrium
25 **L22** Ch.9: moment of inertia, rotational energy	26 Prob Session(2): 4-5pm PS/OH 7-8pm	27 **L23** Prof. OH(1): 4-5pm PS/OH 7-8pm HW 8: Ch. 8-10 due Ch.12: Fluids, pressure	28 Thanksgiving holiday	29 Prob Session(2): 4-5pm No class: Thanksgiving
12/2 **Q4** Quiz 4: Ch. 8-10	3 Prob Session(2): 4-5pm PS/OH 7-8pm	4 **L24** Prof. OH(1): 4-5pm PS/OH 7-8pm Ch.13: Fluid dynamics	5 Prob Sess(3): 10-11am Prof. OH(1): 3:30-5pm	6 **LCR** Prob Session(2): 4-5pm HW 9: Ch.12,13 due Ch.1-10,12-13: Review
9	10 Prob Session(2): 4-5pm PS/OH 7-8pm	11 **F** Final (A): Ch.1-10,12-13	12 Prof. OH(1): 3:30-5pm	13 **F** Final (B): Ch.1-10,12-13

(1) In Urey Hall 7th floor, by the elevators

(2) In MYR-A 2702

(3) In MYR-A 2623