

For PHYS 2A: General Introductory Physics
 SPRING 2024

Professor	Class Time	Contact	Office Hour
Zuleyha Yuksek, PhD	M - Th : 9:30 am - 10:20 am Location: S32, in-person	yuksezkuleyha@fhda.edu (408) 864-8668 S Quad, S11a	In Person : M 11:00 am - 1:00 pm, S11a W 11:00 am - 1:00 pm, S55

Course website Canvas through your De Anza portal (<https://deanza.instructure.com/>)

Final Exam **Tuesday, June 25 from 9:15 AM to 11:15 AM, S32**

NOTE: Last day to drop a class with a "W" is May 31. If you do not drop by this date, you will get a grade according to your performance in this class at the end of the quarter.

Lab Sections

Professor	Class Section (all in S11)	Contact Details
Zuleyha Yuksek	T: 10:30 am - 1:20 pm Location : S17	yuksezkuleyha@fhda.edu , S11a Phone: (408) 864 8668
Zuleyha Yuksek	Th: 10:30 am - 1:20 pm Location : S11	yuksezkuleyha@fhda.edu , S11a Phone: (408) 864 8668

Description

The general introductory physics sequence provides an algebra-based introduction with some calculus to the basic concepts of physics that form the foundation of all the natural sciences. The first quarter introduces classical mechanics, which is the application of the fundamental laws of Newtonian mechanics to a variety of simple systems. It also includes the study of oscillations, waves, and sound. This course is a rigorous introduction to the physical laws that describe and explain the motion of bodies. It also requires problem solving using verbal logic, critical analysis, and mathematical models. Students investigate general scientific procedures as a quantitative interplay between experimentation and theory employing statistical methods, graphical techniques, and measurement theory.

The topics we will cover this quarter include: kinematics; uniform and non-uniform circular motion; linear and rotational dynamics (i.e Newton's Laws); linear and angular momentum; conservation of momentum and energy; work; Newton's Law of Gravity, oscillations, waves and sound.

In the laboratory, explore experimental scientific procedures by comparing theoretical models to classic experiments using standard measurement techniques, basic uncertainty analysis, and graphical interpretations of data.

Prerequisites

MATH 1A or MATH 1AH (may be taken concurrently).

Advisory: EWRT 211 and READ 211, or ESL 272 and 273; PHYS 50.

Required / Recommended Materials

- The textbook for this course is *Fundamentals of PHYSICS* by Halliday, Resnick and Jearl Walker, Any Edition, OR any physics book
- The homework system for the course is expertTA. You will purchase access to expertTA when you open your first homework assignment.
 - The cost of expertTA is \$32.50 for the quarter (the price might change).
- You will need a calculator.

Teaching Philosophy

I will use a combination of mini-lectures and collaborative learning activities in pairs and groups (in-class discussion, problem solving, etc.) to help you learn the material. *My role will be to facilitate your learning through discussion and in-class activities, not to have you copy down everything I say or write. The flip-side is that you have to come to class prepared, ready to discuss the material, and to participate!*

Course Format

In-class - You will come to class by reading, watching pre-lecture videos and completing reading quizzes for each chapter. There will be a mini-lecture to introduce the topic at the beginning of class. Throughout the class, you will answer Think/Pair/Share questions, then do problem-solving in pairs. You are highly encouraged to meet outside of class with your friends to work on homework assignments by Zoom or by Canvas-Group features (Conference).

Asynchronous Work - You are expected to complete reading, reading quizzes, video assignments and homework assignments outside of class time.

You are expected to:

1. Pre-class assignment
 - complete reading assignments through your book and video assignments through ExpertTA.
 - complete a reading quiz on a reading assignment.
2. Complete HW assignments.

You are encouraged to work collaboratively with your friends on the homework assignments, but any submitted assignment must be your own.

Office Hours: - I will be offering office hours in person in my office / S55, check the Canvas page for details.

Grading Policy

NO CURVE! Your final letter grade will be determined by dividing the total number of points earned (including extra credit) by the total number of possible points (excluding extra credit), multiplying by 100, and consulting the following table:

Letter Grade	Percent Points	Letter Grade	Percent Points	Letter Grade	Percent Points
A	93.0-100.0	A-	90.0-92.9	B+	87.0-89.9
B	83.0-86.9	B-	80.0-82.9	C+	77.0-79.9
C	73.0-76.9	C	70.0-72.9	D+	67.0-69.9
D	63.0-66.9	D-	60.0-62.9	F	0-59.9

Your grade will be based on five major components, discussed in detail below, with the following relative weights:

Component	Weight
Reading Assignments	10%
Video Assignments	10%
Homework Assignments	15%
Class Activities	5%
Lab	15%
2 Midterms	25% (12.5% each)
Cumulative Final Exam	20%
Quizzes - BONUS	5%

- **Reading / Video:** You will need to complete a reading assignment or video assignment before we start each chapter. All the assignments will be linked from within Canvas. Reading assignments are the reading quizzes built on Canvas based on your chapter reading. Video assignments are based on watching videos and answering some questions on the video. Video assignments are on ExpertTA, however they are linked through the Canvas. ***You have to open all ExpertTA assignments through the Canvas. NO MAKE-UP for both assignments when they are closed! The lowest grade of the reading and video assignments will be dropped in your total.***
- **Online Homework:** Homework assignments will be through ExpertTA approximately per week due every Sunday at 11:59 pm; however, it might change with respect to the assignment. So,

check the canvas for each homework deadline. The assignments will be linked from within Canvas. Instructions for using Expert TA are provided below. You are encouraged to work together on the homework assignments; however, each student must do her/his own work and be able to solve each problem independently. Homework assignments will be accepted after the due date, but the maximum grade will be reduced by 5% per day for the first week. For the assignments submitted one week after the deadline, you will get half credit of your maximum grade. Assignments submitted two weeks after the deadline will not be accepted!
The lowest grade of the HW assignments will be dropped in your total.

- **Exams:** Over the course of the semester, there will be TWO Midterms. Review materials and more details will be provided closer to the time of the exam. The Midterm exam cannot be missed or made up.
- **Lab:** The labs are an important component of this class; they will give you hands-on experience with designing and executing experiments, and the material covered during the lab complements what we do in class. **Remember: You must complete every lab in order to pass the lab class, and you must pass the lab in order to pass this course!**
- **Class Activities:** There will be many class activities throughout the quarter. During the class time, you will be notified which ones you need to submit. Class activities cannot be made up. If you are missing for any reason, you will get ZERO!
- **Final Exam:** The final exam will be a 2-hour, cumulative, closed-book/closed- notes exam. The final exam cannot be missed or made up.
- **Extra Credit Opportunities:** Throughout the quarter, there will be different extra credit opportunities. They might be some of the class assignments, video assignments, attendance, challenge problems or more. **They are OPTIONAL.** At the end of the quarter, %5 of this part will be added on your total as BONUS POINTS!!!!
- **Policy on Late Work :** Homework assignments will be accepted after the due date, but the maximum grade will be reduced by 5% per day for the first week. For the assignments submitted one week after the deadline, you will get half credit of your maximum grade. Assignments submitted two weeks after the deadline will not be accepted! All other assignments (reading, video or class assignments) must be completed on time - no late work will be accepted.

Registration Instructions for ExpertTA

From inside of Canvas, go to an available assignment that uses Expert TA and open it. Our first assignment is in Module 0, HW 0.1 | Learning ExpertTA. This action brings you directly to the take assignment page. This automatically registers you in Expert TA, so Canvas will be your primary springboard for accessing our system for the quarter.

Check-out:

- You will not be able to do homework until you complete the payment process.
- You will need to click on the check box to confirm that you are purchasing access for the class listed.

After you have clicked the checkbox, you will choose your method of payment. If you are using a credit card to pay now, click “Credit Card”. The option for a “free 14-day Trial” will allow you to delay your payment for exactly two weeks. If a trial is chosen, you will be able to do homework immediately, and be asked to make your actual payment with a credit card after the trial period has ended.

Payment with a Credit Card:

- After clicking “Credit Card” you will be redirected from our site to Authorize.net
- Authorize.net is an industry leader in secure payments and used by tens of thousands of companies.
- Enter your credit card information. Note: Pay careful attention when entering information into each field, including the street address and CVV code boxes.

Registration is Complete and you are done! You will be directed to your assignment to begin your work. *As you work problems, your scores are ported back over to Canvas within a few minutes at a time.*

Verify your email: You will see information at the top of the page each time you are redirected from Canvas into Expert TA, including the email address our system captured for you. This is your username and how we uniquely identify you in our system. If for some reason your email address in Canvas changes, this can cause issues. Be sure to verify your email from time to time to make sure it’s the same.

Do I need a password? No, because you log into Canvas, you will never access Expert TA directly from our login page, as your password is handled and managed via Canvas at all times.

Can I study from previously taken assignments? Yes, if you want to visit Expert TA for additional practice, or to study, then you can go into the system from an older assignment, and then navigate manually outside of the take assignment area to the Class Management page, which is your dashboard. All assignments used with Canvas are shown here. Completed sets can be opened back up by clicking the assignment name and choosing View Detailed Grade Report.

FAQs: Hints and Feedback are provided throughout the term while taking assignments, typically for homework and not on exams. Hints are generalized tips, whereas feedback is always meaningful assistance based on your most recent incorrect answer.

Student Support Link: <http://theexpertta.com/support/student-support>

24x7 Student Support: - email main@theexpertta.com or call 877-572-0734.

Policies to Minimize the Spread of COVID-19

For any Covid issues, please FIRST check the following website: [COVID POLICY](#)

Face masks: Properly worn face masks are strongly recommended on campus and in the classroom. .

Cleaning: College Operations is providing the following for all classrooms if you need:

- Face masks
- Hand sanitizer
- Sanitizing wipes

Symptoms and Quarantining: If you have any symptoms of illness, especially those associated with COVID-19, you must not attend class under any circumstances. As with any absence, you should contact your instructor to discuss missed lectures and assignments. If your instructor is quarantined due to COVID-19 exposure, the class will be offered remotely until the instructor is able to return to campus. Additionally, instructors may move the class to remote instruction if they feel in-person meetings are not safe.

Attendance: To prevent the spread of COVID-19, if you have symptoms or have been exposed to the virus you are required to self-quarantine and report according to De Anza's health policy. If you have symptoms or believe you were exposed to the virus, you should not attend class in-person and notify your instructor. You should use the [Student Self-Report Form](#) to notify the college Health Services office.

If someone in an on-campus class **tests positive for COVID-19**, the other students and instructor can continue coming to class – **provided they have received a COVID-19 booster** – but **must be tested after five days**. Anyone in the class who has not received a booster (but is eligible for one) will be required to stay home for five days and then be tested. (See COVID-19 [testing and isolation protocols](#).)

Missing Work or Exams: If you have a COVID, you need to prove it. For class assignments or attendance, you need to provide your test result. For any exam make ups, you need to take a PCR test to prove your COVID, home tests are NOT accepted.

My Expectations

I expect you to come to each class prepared, ready to discuss the material, and to be active participants in all discussions and group-based activities. In particular:

- 1- Attendance is required— During class time, we will complete activities and practice problems that will reinforce the concepts that we are covering. Please don't come to class if you don't feel well but do let me know.
- 2- Be respectful—Please treat everybody as you would like to be treated. That includes respecting differences of opinion, listening attentively while others are speaking, and ensuring no discourteous interruptions or distractions (cell phones should be silenced, no texting, no browsing the web, etc.). Any disruptive behavior during class will not be tolerated. If there is disruptive behavior during the class, the student will be given a warning. If the problem persists, then the student is asked to leave the class and a disciplinary report may be in progress.
- 3- Time management —
 - a. Reading should take 2–4 hours per week. Be sure to read the text before class, take notes and work through examples, and complete the Online Reading Assignments!
 - b. Homework should take 3–5 hours per week. Be sure to start your homework early and get help if you need it from your instructors, other students, and the physics tutors.
 - c. Midterm Preparation should take less time if you are completing the assigned reading, applying yourself in class and lab, and completing your homework conscientiously, you won't need to put much time into preparing for the quiz.

Additional Policies & Information

- 1- Academic Integrity: Each student will be held to a high standard of academic integrity. Cheating (copying) on the homework, exams, or any other assignments will result in a zero for the assignment and may also cause you to fail the class. Keep in mind: if you feel overwhelmed by the material and assignments, or simply need additional help, come to my office hours, attend tutoring, or get in touch with me as soon as possible.
- 2- Accommodations Policy: In compliance with the Americans with Disabilities Act and with Section 504 of the Rehabilitation Act, De Anza College is committed to ensuring educational access and accommodations for all its registered students. I request that any student with a documented disability needing academic adjustments or accommodations speak with me during the first two weeks of class. All discussions will remain confidential. Students with disabilities should also contact the [De Anza College Disability Services Office](#).
- 3- Inclusive Classroom: In this community, diversity is an invitation to celebrate the uniqueness of each individual, as well as the cultural differences that enrich us all. In this course, I will do my best to ensure that students from all backgrounds and perspectives will be served equitably. The diversity that students bring to this class will be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful and inclusive of the many identities of students in terms of gender, sexual orientation, disability, age, socioeconomic status, ethnicity, race, culture, perspective, and other background characteristics. Your suggestions about how to improve the value of diversity and inclusiveness in this course are encouraged and appreciated.
- 4- Reporting a Bias Incident or Sexual Misconduct: In any case of possible bias or sexual misconduct, either in the classroom or anywhere on campus, you are encouraged to file a complaint. You should use the online form [here](#). Any De Anza community member, who experiences or observes an incident of bias or misconduct, including faculty, staff and students, can file a report through this system. More information and resources around procedures dealing with sexual misconduct and discrimination and harassment are available [here](#).
- 5- Emergency preparedness: In the event of a campus-wide emergency or College Closure (e.g., storm day) continue with readings and assignments according to the course schedule and as posted on Canvas. Online office hours will be established. Information regarding the status of the Colleges status and reopening schedule may be monitored on the De Anza College home page.

Course Schedule & List of Topics

Below is the *tentative* schedule of topics for the course. Please refer to the SCHEDULE on canvas or canvas itself for the most up-to-date schedule, reading and homework assignments, and other deadlines.

<u>Chapter</u>	<u>Topic</u>	<u>Time (weeks)</u>
Ch 1	Physics and Measurement	0.25
Ch 2	Kinematics in 1D	0.5
Ch 3	Vectors	0.5
Ch 4	Kinematics in 2D	1
Ch 5	Force & Motion	1
Ch 6	Circular Motion & Other Applications of Newton's Law	1
Ch 7	Energy of a System	0.5

Ch 8	Conservation of Energy	0.5
Ch 9	Impulse & Momentum & Collision	1
Ch 10	Rotational Motion	0.5
Ch 11	Angular Momentum	0.5
Ch 12	Static Equilibrium	0.5
Ch 13	Universal Gravitation	1
Ch 15	Oscillatory Motion	1
Ch 16	Waves	1

PHYS 2A LAB: General Introductory Physics

SPRING 2024

Lab and Instructor Info

Professor	Class Section (all in S11)	Contact Details
Zuleyha Yuksek	T: 10:30 am - 1:20 pm Location : S17	yuksezkuleyha@fhda.edu , S11a Phone: (408) 864 8668
Zuleyha Yuksek	Th: 10:30 am - 1:20 pm Location : S11	yuksezkuleyha@fhda.edu , S11a Phone: (408) 864 8668

LAB FINAL EXAM: Last week of classes (Week 11), June 18 and 20, during the lab session

Course-Level Learning Goals

By the end of the three-course intro lab sequence, students should be able to:

1. Collect data and revise an experimental procedure iteratively and reflectively,
2. Evaluate the process and outcomes of an experiment quantitatively and qualitatively,
3. Extend the scope of an investigation to see whether results come out as expected,
4. Communicate the process and outcomes of an experiment, and
5. Conduct an experiment collaboratively and ethically.

The labs are an important component of this class; they will give you hands-on experience with designing and executing experiments, and the material covered during the lab complements what we do in class. **Remember: You must complete every lab in order to pass the lab class, and you must pass the lab in order to pass this course!**

Attendance:

Attendance is **MANDATORY**. You cannot miss any of the labs, otherwise you will fail the lab, so fail the class. For every lab session, you need to be in the laboratory **ON TIME**. You should not come late. You should stay in the lab until you are done and submit your report on Canvas. Without submitting your report, you cannot leave.

Laboratory Format:

The laboratories will consist of activities designed to develop experimental skills in Physics, and to provide hands-on experience with the topics you study in class. The sequence of the experiments for this quarter is given at the end of this document. The lab handout for each experiment will be available on Canvas a few days ago. You are responsible for reading before coming to the lab, which will prepare you for the lab and successfully complete the experiment. Experiments will be run by a group of three students, so you will be a part of the same group during the quarter. You can use the lab handout or your notebook to write your measurements; however, you need to submit it according to the Lab Report Format individually. Lab partners are responsible for their own write-up of each lab. If a lab partner is observed to have not participated, they will receive a zero for that activity. The lab reports are due at the end of the class.

Laboratory Safety:

Although hazards are minimized in this course, students are required to follow instructions and generally use safe practices. Failure to follow either the regular safety regulations or the pandemic protocols will result in a failing grade for the lab session. Report any injuries to your lab instructor immediately.

Grading:

Instructors will review with students what is expected of them for each lab, but generally each activity will involve completion of the activity and submission of a write-up. All materials and schedules will be provided and administered through the Canvas site for the lab section.

You **MUST** complete every laboratory activity with a passing grade in order to pass the course! The actual percentage of your course average will be determined by your lecture instructor.

All lab activities are due by the posted due date. Please work efficiently and plan your time accordingly. The activities should be straightforward to complete, but will involve preparation, planning, multiple trials, and analysis, and you may encounter the need for assistance. It is much easier to ensure successful completion if work begins on the activity in advance of the due date.

All labs will be graded. The lab reports will be %80 of lab grade.

At the end of the quarter, last week, you will have a lab final. It will be the other % 20 of lab grade. It will be a comprehensive final, so you will be responsible for all labs during the quarter.

Make-Up Policy:

Since each laboratory requires different equipment to be set up and because your partner is depending on your participation, every student is expected to attend and participate in each laboratory session. There is no *make-up*. **You will get zero if you did not attend.** You cannot also attend another lab session to make it up.

My Expectations

I expect you to come to each class prepared, ready to discuss the material, and to be active participants in all discussions and group-based activities. In particular:

- 1- Attendance is MANDATORY— You cannot miss any of the labs, otherwise you will fail the lab, so fail the class.
- 2- Be respectful—Please treat everybody as you would like to be treated. That includes respecting differences of opinion, listening attentively while others are speaking, and ensuring no discourteous interruptions or distractions (cell phones should be silenced, no texting, no browsing the web, etc.). Any disruptive behavior during class will not be tolerated. If there is disruptive behavior during the class, the student will be given a warning. If the problem persists, then the student is asked to leave the class and a disciplinary report may be in progress.
- 3- Time management —
 - a. Reading the manual should take 1–2 hours per week. Be sure to read the text before class, take notes and be ready before the lab!
 - b. You should finish the lab during class time for a total of 3 hours and submit at the end of the class.

Lab Schedule & List of Topics

Below is the *tentative* schedule of topics for the course.

Week	Lab Title
1	Tossing a Ball with Uncertainties
2	Measurement & Error Analysis
3	Measurement & Error Analysis
4	Free Fall / Adding Vectors
5	Projectile Motion
6	Atwood Machine
7	Centripetal force
8	Statics Equilibrium
9	Ballistic Pendulum / Friction

10	Simple Harmonic Motion - SHM
11	Lab FINAL

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.

Office Hours:

M	11:00 AM	01:00 PM	In-Person	s11a
W	11:00 AM	01:00 PM	In-Person	S55