



Department of Physics
College of Natural Sciences
and Mathematics

Physics 1301 College Physics 1

Section #, Location/time

General Course Information

Name: Instructor name

Department: Physics

E-mail: Instructor email

Phone: (713) 743-####

OFFICE HOURS: Times, location

Course Objectives and Student Learning Outcomes

The objective of this course is to learn the principles of mechanics through application of Newton's laws, understand the concept of energy and be able to apply these concepts to describe the motion of objects.

Upon completion of this course, students will be able to:

1. comprehend the fundamental principles in mechanics.
2. use the formalisms of the theory and mathematical techniques to solve problems. This involves application, analysis, and synthesis of the fundamental principles.

Other learning outcomes include:

1. Students completing this course will be able to convey knowledge of the basics principles of physics and be able to use these principles to solve elementary problems.
2. Students will be able to take a real-life problem and use physical principles and basic mathematical tools to describe the problem.
3. Student will have the ability to communicate orally and in writing in a clear concise manner the concepts of Physics.

Required Instructional Materials

Required Materials: Expert TA, ALEKS, OpenStax College Physics textbook. If there are additional requirements, add them here. Computer and internet access are required for this course.

Undergraduate students enrolled in this course have been automatically opted into the Cougar Textbook Access Program (CTAP). CTAP provides undergraduate students access to all your required course materials before the first day of class, for one low, flat fee. You may choose to opt out of the CTAP fee through your student account; however, if you opt out, you will need to procure the course materials for all your classes on your own. Please visit the [CTAP website](#) for more detailed information or email ctapuh@central.uh.edu.

If you did not opt out of CTAP, your Expert TA access code will be provided through CTAP. You will receive an email with your Expert TA access code. The product may be listed as “Intro to physics homework (semester).” A link to the online textbook will be available on Canvas or can be accessed directly via <https://openstax.org/details/books/college-physics>. ALEKS is an online Math prep program. You will be able to access it via a link on the Canvas course page.

If you opted out of CTAP, Expert TA may be purchased through the UH Campus Store, or standalone access can be purchased directly from the website <https://theexpertta.com/>. The online textbook is freely available at the link above. ALEKS can be purchased via the website (accessible through Canvas).

A printed copy of the textbook can be purchased if desired but is not required.

Use this link to register for our Expert TA course: **Add the current semester's Expert TA registration link here – this link is specific to your class and changes every semester.**

You must use your Cougarnet email (with extension @cougarnet.uh.edu) to register for Expert TA. You have free access for the first two weeks until you receive your access code.

Course Schedule, Assignments, and Assessments

Course Requirements:

- A. **(OPTIONAL) Warm up Assignments:** Reading quizzes covering the material from the reading assignment, consisting of 2-3 questions/problems, will be assigned online. The quizzes will be available at least 24 hours before they are due, and they will be due by the beginning of the lecture time. There will be a time limit for taking the quiz and you will be allowed 2 attempts for each quiz. Solutions for the quizzes will be discussed during the lecture and will be posted on the class website.
- B. **Homework Assignments:** Homework will be completed online using Expert TA. Ten or more homework problems will be assigned at the beginning of each chapter and will be due approximately one week from that date.
- C. **Diagnostic Exam:** The required diagnostic exam for this course will test your basic mathematical skills in algebra, geometry, trigonometry and word problem solving. The exam consists of 20 multiple choice questions. The exam will be administered by the CASA Testing Center **Aug 25 – Sep 5, 2025**. You can log onto the CASA website <https://ccs.casa.uh.edu/canvas2.html> with your Cougarnet credentials to schedule the test.
The diagnostic exam is worth 3% of your final grade for the course. If you score above 70%, you should be well prepared to pass the course; 51 - 70%, you should review algebra, trigonometry and pre-calculus; 50% and below, it is recommended that you drop the course and re-enroll once you have improved your math and problem-solving skills.
- D. **ALEKS Math Prep:** ALEKS is an online Math prep program that you can use to improve your math skills. You will be able to access it via a link (“ALEKS”) on the Canvas menu for your course. To use it, click on the link, and take the “Initial Knowledge Check.” The program will then guide you through tutorials on math topics. ALEKS is provided as part of CTAP. If you opted out of CTAP, you will be prompted to pay for access once logged in. **Instructors: Completing some portion of the program may count towards the grade or as extra credit.**
- E. **Exams:** There will be three regular exams. Regular exams will cover 3-5 chapters each. There will also be a longer final exam which will be comprehensive, covering all the material in the course. The exams will be administered by CASA. Exams will be offered

for multiple days, which may include weekends. You must sign up for an exam time in advance.

F. **Teamwork Component:** A teamwork component will be evaluated in this course.

Instructors: This is required component of the course. Choose one of these examples or use some other form of teamwork.

- Concept tests will be administered during lecture. Students will discuss these questions in teams as a method of peer instruction.
- Teams will be assigned to create a study guide for each of the exams for the course. The study guides will be posted in Blackboard and students will be able to choose the study guide which is best for use to prepare for the exam. Each group will have to work together to determine what will be included on the study guide and the best format for presenting it to the students.
- Other?

G. **Student Success Program/Recitation Sessions:** This course will include recitation study groups. Recitation sessions are held for one hour each week and begin the third week of classes. These sessions provide the opportunity to participate in problem-solving activities designed to enhance your understanding and mastery of the course content. All students are invited to attend. However, **any student scoring below 70% on the Diagnostic Exam MUST attend one recitation each week** for the remainder of the semester. For these students, recitations will count for 50% of the Teamwork/Attendance component grade. Recitation attendance will be graded as the percentage of required recitation sessions attended. Students must arrive on time, stay for the entire session, and record their attendance. Students enrolled in the SEP workshops are not required to attend additional recitations. For SEP students, if their Diagnostic Exam grade is below threshold, their SEP attendance grade will be used for the recitation attendance grade.

Phys 1301 Fall 2025 Course Schedule

Topics subject to change depending on the pace of the class. Exam dates are fixed.

Dates	Chapters/Sections
Week 1 (8/25-8/29)	1, 2
9/1 Labor Day – No classes	
Week 2 (9/2-9/5)	2
Week 3 (9/8-9/12)	3.2, 3.3
Week 4 (9/15-9/19)	3.4, 3.5
Week 5 (9/22-9/26)	4
Week 6 (9/29-10/3)	5
10/2-10/4 Exam 1 at CASA	Ch 1-4
Week 7 (10/6-10/10)	6
Week 8 (10/13-10/17)	7
Week 9 (10/20-10/24)	7
Week 10 (10/27-10/31)	8
10/30-11/1 Exam 2 at CASA	Ch 5-7
Week 11 (11/3-11/7)	9
Week 12 (11/10-11/14)	10
Week 13 (11/17-11/21)	11
Week 14 (11/24-11/25)	16
11/26-11/28 Thanksgiving – No Classes	
Week 15 (12/1-12/5)	17
12/4-12/6 Exam 3 at CASA	Ch 8-11

12/11-12/13 Final Exam at CASA	Ch 1-11, 16, 17
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Other Important Dates:

9/10 Last day to drop without receiving a W

11/19 Last day to drop with a W

Discussion and Lecture Topics

This course will cover Chapters 1-11,16-17 which include the following topical areas:

1. Vector in Physics
2. Newtonian Mechanics: Motion in 1-D and 2-D
3. Work and Energy
4. Momentum and Collisions
5. Rotational Kinematics, Dynamics and Energy
6. Gravity
7. Oscillations about Equilibrium
8. Waves and Sound
9. Fluids

Grading Rubrics and Weights

3% Diagnostic Exam

10% Teamwork / Attendance

7% Discretional – Could count for reading quizzes, more towards exams, etc. However, this percentage cannot be put towards Homework)

10% Homework

17% Regular Exam I

17% Regular Exam II

17% Regular Exam III

19% Final Exam

The final exam grade will replace the lowest regular exam grade if the final exam grade is higher.

Course Policies and Procedures

CASA Exam Procedures: See the [CASA Testing Center Guidelines](#). You may use a basic scientific calculator, such as a TI-30, for all regular and final exams. No graphing/programmable calculators are allowed. A formula sheet will be provided.

Makeup Exams: Makeup exams will only be allowed for documented reasons listed under the [Undergraduate Excused Absence Policy](#). You must contact your instructor before the exam if possible or as soon as possible after missing the exam to make the request. Makeup exams at CASA will be held in the week following the regular exam. If your request for a makeup exam is approved, your instructor will contact you by email, typically on Monday of that week, to inform you what day you will be able to take the makeup and to give instructions for scheduling. If you expect to have an extended absence or to miss multiple exams, please contact your instructor to discuss other alternatives.

Academic Honesty: It is each student's responsibility to read and understand the Academic Honesty Policy found at <http://www.uh.edu/academic-honesty-undergraduate>.

The following rules apply to all exams for this class:

- Do not communicate about the exam with anyone (other than your instructor or CASA staff) from the time that the first student takes the exam until 48 hours after the last student takes the exam.
- Do not post information about the exam at any time (while you are taking it or afterward) on a website or any other forum where other people can find the information.
- Do not make or save a record of the exam questions. This includes screenshots, pictures, video, copying and pasting the text, etc.
- Do not use any electronic devices while taking the exam other than the computer you are using to take the exam and your calculator.
- While you are taking the exam, you may not have any other applications open on your computer.
- Do not consult any outside resources such as books, notes, or websites while taking the exam.
- Do not search for or view exam questions that have been posted to websites, including but not limited to Chegg or Course Hero. Viewing exam questions on these websites while the exam is ongoing will be considered an act of academic dishonesty.

Academic Honesty proceedings may be initiated against any student who violates these rules.

Tutoring and Additional Resources: See <https://uh.edu/nsm/physics/undergraduate/tutoring/> for information about the Physics Learning Center. Note that the Learning Center will not be open during the final exam period. See <https://uh.edu/nsm/physics/undergraduate/intro-course-info/> for other information and additional resources.

Policy on grades of I (Incomplete): The temporary grade of I (incomplete) is a conditional and temporary grade given when students (a) are currently passing a course or (b) still have a reasonable chance of passing in the judgment of the instructor, but for non-academic reasons beyond their control have not completed a relatively small part of all requirements. Incompletes will be given only when documentation has been submitted to support the need to receive an incomplete, i.e., medical statements.