



COURSE TITLE/SECTION: Physics 1301 Introductory General Physics I/Class Number 13499

TIME: Mo & We, 5:30-7:00 p.m.

LOCATION: Building and room # **SR 116**

FACULTY: Claudia Ratti

OFFICE HOURS: Mo:3-4p.m., We:3-4p.m. or by appointment
Building: SR1, Room: 627-D

E-mail: cratti@uh.edu

Phone: (713) 743- 7250 **FAX:** (713) 743-3589

I. Course: Physics 1301 - Introductory General Physics I

A. Catalog Description: Elementary principles of mechanics and heat.

B. Prerequisites: [MATH 1330](#). Primarily for majors other than physics, mathematics, and engineering. Credit may not be applied toward a degree for both [PHYS 1301](#) and University Physics I, [PHYS 1321](#).

II. Course Objectives: The objective of this course is Learn the principles of mechanics through application of Newton's laws.

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.

III. Course Content: This course will cover chapter 1 – 15 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

IV. Course Structure:

The web address for the class is <http://nsmn1.uh.edu/cratti/PHY1301-Spring2015.html>
The same information can be found on blackboard.

V. Textbooks

Physics, Fourth Edition, James S. Walker. Binder version with access code to Mastering Physics and My Readiness Test available at the UH bookstore.

VI. Course Requirements

- A. **Written Assignments**(See **Pearson Mastering Physics** for HW assignments)
10 or more **homework** problems will be assigned at the beginning of each chapter and will be due approximately one week from that date.
(www.pearsonmastering.com)

- B. **Exams:** There will be one **diagnostic exam**, three **regular exams** and a **final exam** for a total of five exams for the class. 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. It is a one hour exam and no calculators are allowed. The exam will be administered by CASA Testing Center **January 20th – 30th**. You can log onto the CASA website to make a reservation at <http://casa.uh.edu> or you may go to room 222 Garrison Gym. You will be able to reserve a spot to take the exam approximately one week before the exam opens.

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, you should consider dropping the course or re-enrolling once you have improved your math and problem solving skills. **YOU DO NOT NEED TO SEND PROOF OF PREREQUISITE FOR THIS COURSE.**

If you score below 65% on the diagnostic exam, you can take a math tutorial to increase your diagnostic exam score to 65% but no greater. You must complete all tutorial sub-tests as well as the final test with a score of 75% or greater.

OR

If you just wish to improve your math skills, you can complete a math tutorial which has been set up by the Department of Physics.

The math tutorial course is set up through My Readiness Test, an online math tutorial offered by the publisher of the textbook for the course. If you purchased a textbook from the UH Bookstore, you will receive a free access code to My

ReadinessTest. If you did not purchase your textbook through the UH bookstore, you can purchase a code for My Readiness test for \$15 through the publisher's website listed below.

http://www.myreadinesstest.com/support/mpt/contactus_stu.htm

See the Department of Physics website after December 1st for more details on how to register and access the math tutorial through My Readiness Test

<http://www.phys.uh.edu/docs/phys/resources/Phys%201301-How%20to%20Register%20and%20Enroll%20in%20MyReadinessTest-S15.pdf>

Statistics: A study on 543 student enrolled in Phys 1301 at UH, showed that of the students who scored below 65% on the diagnostic exam, 78% of those completing the math tutorial passed the course while only 45% of those who did not complete the math tutorial passed the course. These statistics show that it may be your advantage to complete the math tutorial to increase your chances of passing the course.

The **regular exams** will be given during the scheduled examination period for this course which is on Fridays from 5:30 – 7:00 pm (see note on the course listing and exam schedule on next page). The regular exams will cover 5 chapters and will consist of around 15 multiple choice problems. Each regular exam will be worth 17% of your final grade for a total of 51% for the three regular exams.

The **final exam** will be comprehensive covering all chapters covered for the course. The format of the final exam will be similar to that of a regular exam. This exam will be given during the University Departmental final exam scheduled time.

There are no makeup exams for this course. The lowest exam score will be replaced by the final exam score if the final exam score is higher.

- C. Student Success Program/Recitation Sessions:** This section has been selected to participate in a program supported by a Howard Hughes Medical Institute (HHMI) grant. Because of this, the course will include recitation study groups. This program will provide early assistance to students who are having academic difficulties in the course and will provide worthwhile enrichment opportunities for students who are on-track. To take full advantage of this assistance and opportunity all students will need to fill out a FERPA release form and sign a participation contract. In addition, other questionnaires may have to be completed during the course.

Recitation sessions are held for one hour each week and begin the second week of classes; all students are invited to be part of them. The schedule is posted on the course Blackboard Learn page. You do not need to sign up or register, just turn up at your chosen time. Take your clicker to recitation, to record your attendance. These sessions provide the opportunity to participate in problem-solving activities designed to enhance your understanding and mastery of the course content.

Any student scoring below 65% on the Diagnostic Exam or Exam 1 **MUST** attend each week for the remainder of the semester. For these students, recitations will count for 60% of the Teamwork/Attendance component grade. Recitation

attendance will be graded as the percentage of required recitation sessions attended. Attendance will be taken using clickers (see below).

- D. Teamwork Component/Attendance:** Concept questions will be administered during lecture for each chapter. Answers for the concept questions will be submitted using a personal remote system (clicker). Students will discuss these questions in teams of 2-3 students as a method of peer instruction. The grade is based on participation. If you participate in 80% or more of the concept questions you will receive full credit for the Teamwork/Attendance component. Any percentage below 80% will be weighted. If you are required to attend recitation sections, 40% of this grade is determined from lecture concept test participation and 60% from recitation section attendance.

Each Turning Point clicker costs \$40 plus tax. For the detailed Clicker purchasing information, please contact.

Barnes & Noble in the UC
4800 Calhoun Rd.
126 University Center
Houston, TX 77204
Phone: 713-748-0923

NOTE: You can use your book loan to buy a clicker through the bookstore. **See Blackboard for clicker registration instructions.**

VII. Evaluation and Grading

3%	Diagnostic Exam
10%	Teamwork / Attendance
10%	Homework
17%	Regular Exam I
17%	Regular Exam II
17%	Regular Exam III
26%	Final Exam (Saturday, May 9th, 8 – 11 am)

Policy on grades of I (Incomplete): The grade of "I" (Incomplete) is a conditional and temporary grade given when a student, for reasons beyond his or her control, has not completed a relatively small portion of all requirements. Sufficiently serious, documented situations include illness, death in the family, etc.

VIII. Consultation

My office is located in room 627D of Science and Research #1. My mailbox is located in the Physic office, room 617 in Science and Research # 1. My office hours will be on Monday and Wednesday from 3 to 4 p.m. If you can not see me during those times, you may schedule an appointment with me by calling me at (713) 743-7250 or e-mailing me at cratti@uh.edu.

IX. Bibliography

References: Physics, Algebra/Trig, Eugene Hecht; Fundamentals of Physics, Halliday, Resnick, and Walker; The Feynman Lectures on Physics, R. Feynman, R.B. Leighton, and M. Sands

Addendum: Whenever possible, and in accordance with 504/ADA guidelines, the University of Houston will attempt to provide reasonable academic accommodations to students who request and require them. Please call 713-743-5400 for more assistance.

Academic Honesty: It is each student's responsibility to read and understand the Academic Honesty Policy found at <http://catalog.uh.edu/content.php?catoid=6&navoid=1025>.

Religious Holy Days: Students whose religious beliefs prohibit class attendance or the completion of specific assignments on designated dates may obtain an excused absence. To do so, please make a written request for an excused absence and submit it to your instructor as soon as possible, to allow the instructor to make arrangements. For more information, see the Student Handbook. <http://catalog.uh.edu/content.php?catoid=4&navoid=791>.

Standard Disclaimer: This syllabus is subject to change at the discretion of the instructor.