

Physics 1301: Introductory Physics I

Section: 11132

Meeting Time: MWF 10-11.

Instructor: Dr. Victor Andersen

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Office Hours: M-Th 1:00-2:00 p.m.

Catalog Description: PHYS 1301 Cr. 3. Prerequisite: MATH 1330 or equivalent. Primarily for majors other than physics, mathematics, and engineering. Credit may not be applied toward a degree for both PHYS 1301 and 1321. Elementary principles of mechanics.

Text: *Physics (3rd Edition)* by James Walker. ISBN 0-13-173463-6 (get new ISBN)

Course Content: This course will cover topics in kinematics, mechanics, rotational kinematics, vibrations and waves, and fluids.

Course Objectives: Upon completion of this course, students will be able to solve elementary physics problems concerning:

1. Kinematics
2. Mechanics
3. Rotational Kinematics
4. Vibrations and Waves
5. Fluids

How to Succeed in this Course

1. **Read ahead in the textbook.** You will be encountering many new and difficult ideas in this course. Most people need several exposures to these ideas before they will actually stick, so begin to familiarize yourself with the material to come before you get to class.
2. **Come to class regularly.** For the reasons I've already said. In addition, you can *ask questions* in class.

3. **Study and work physics problems every day.** For exactly the same reasons in 1 and 2.
4. **Spend more time on the beginnings of the problems than the middles and ends.** Much of the working out of physics problems is mathematics. Setting up the problem to be worked out is where the majority of the physics in the problems occurs. Most people who have trouble in physics courses have difficulty setting up the problems, not working the problems through when they have been set up. Don't believe anyone who says "I understood the physics, I just couldn't work the problems!" Having trouble working problems is almost always due to not understanding the basic physics well enough to set up the problems.

Grading: Your final grade in the course will be determined based on three sources; 15% from homework, 60% from the best three of four in class exams, and 25% from a comprehensive final exam.

Grading Notes

- The portion of your grade from the in class exams will be determined using the best 3 scores from the 4 exams. If you miss an exam, the missed exam will be the exam dropped; no makeup exams will be given.
- Weekly homework will be assigned and graded. Some homework problems will be assigned from the textbook, while others will be assigned through WebCT. Both types of homework will be of equal weight in calculating your final homework grade for the course.
- Textbook homework is due at the beginning of class on the Monday of the following week. WebCT homework will be due at 11:55 p.m. on that day.
- Homework is due at the beginning of class. **No late homework will be accepted!** The lowest homework grade will be dropped (to make allowance for illness, etc...) There will be a large number of homework assignments (typically one per chapter), so missing credit for a single assignment will not do serious violence to your grade. Missing multiple assignments is a symptom of a more serious problem, however.

- Neither I nor the paper grader will attempt to grade a homework question that is illegible or presented in a manner that is difficult to follow, we will simply give such a question a zero. Take pride in your work and make sure that your homework assignments are neat and legible.
- The final exam will be given during the university scheduled final exam period. **I do not schedule early times to take the final exam. I do not give late final exams for students who do not wake up in time for the final or who weren't sure of the day and the time of the final.** All students are expected to take the final exam during the scheduled final exam period.

Grading Scale

A	87 and up
B+	85-86
B	77-84
B-	75-76
C+	73-74
C	63-72
C-	61-62
D	50-60
F	49 and below

Incomplete Policy: as per the policy stated in the catalog:

“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.

Students are responsible for informing the instructor immediately of the reasons for not submitting an assignment on time or not taking an examination. Students should understand that the only way to have an I changed to a passing grade is to fulfill course requirements in accordance with the conditions specified by the instructor. Students must contact the instructor of the course in which they receive an I grade to make arrangements to complete the course requirements. Students must not re-register for the courses in which their grade is currently recorded as an I. Even when the conditions for fulfilling the course requirements include participation in all or part of

the same course in another semester, the student must not re-register for the course. After the course work is completed, the instructor will submit a change of grade form to change the I grade to the grade earned. Both grades, the original I and the earned grade, will appear on the transcript

The grade of I may not be changed to a grade of W, but may be changed only to another letter grade. As stated under Fulfillment of Grade Requirements for a Degree, all grades of I shall be computed as grades of F for purposes of calculating a student's cumulative grade point average for graduation.

Should the student not complete the course in the time allotted (a maximum of one year), a grade of F will be assigned and used for purposes of calculating a student's cumulative grade point average for graduation and also for determining eligibility for graduation with honors (i.e., an I grade that becomes an F, even if associated with a course taken during the freshman or sophomore year, will be counted as part of the student's last sixty-six hours)."

Additional Sources of Material

If you are interested in seeing more worked example problems, I suggest the following sources.

- Schaum's Outline of College Physics, ISBN: 0070089418
- 3,000 Solved Problems in Physics, ISBN: 0070257345
- Schaum's Outline of Beginning Physics I: Mechanics and Heat, ISBN: 0070256535

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.

Class Schedule

Monday	Wednesday	Friday
8-21 Course Intro	8-23 Chapter 1 Preliminary Review	8-25 Chapter 2 1-D Motion
8-28 Chapter 3 Vectors	8-30 Chapter 3 Vectors	9-1 Chapter 4 2-D Motion
9-4 Labor Day ¹	9-6 Chapter 4 2-D Motion	9-8 Chapter 5 Forces: Basic Concepts
9-11 Chapter 5 Forces: Basic Concepts	9-13 Chapter 6 Forces: Applications	9-15 Chapter 6 Forces: Applications
9-18 ² Chapter 6 Forces: Applications	9-20 Chapter 7 Work and Energy	9-22 Exam 1 Chpts. 2-5
9-25 Chapter 7 Work and Energy	9-27 Chapter 8 Potential Energy	9-29 Chapter 9 Linear Momentum
10-2 Chapter 9 Linear Momentum	10-4 Chapter 10 Rotational Motion	10-6 Chapter 10 Rotational Motion
10-9 Chapter 11 Torque	10-11 Exam 2: Chpt. 6-10	10-13 Chapter 11 Torque
10-16 Chapter 11 Torque	10-18 Chapter 12 Gravity	10-20 Chapter 12 Gravity
10-23 Chapter 13 Oscillations	10-25 Chapter 13 Oscillations	10-27 Chapter 14 Waves
10-30 Chapter 14 Waves	11-1 ³ Chapter 15 Fluids	11-3 Chapter 15 Fluids
11-6 Chapter 16 Temperature	11-8 Exam 3: Chpt. 11-15	11-10 Chapter 16 Temperature
11-13 Chapter 17 Phases of Matter	11-15 Chapter 17 Phases of Matter	11-17 Chapter 18 Thermodynamics
11-20 Chapter 18 Thermodynamics	11-22 Thanksgiving Mmmmmmmmm...	11-24 Thanksgiving ...Tryptophan ⁴
11-27 Chapter 18 Thermodynamics	11-29 Chapter 18 Thermodynamics	12-1 Exam 4: Chpt. 16-18

Final Exam: Friday, December 8, 11 am

¹Tuesday 9-5 is last day to withdraw without hours counting against enrollment cap.

²Last day to drop without grade.

³Last day to quit or drop a course.

⁴<http://en.wikipedia.org/wiki/Tryptophan>