

PHYS1301 – Course Syllabus

1. Course Information

Course Number / Section: 1301-001
Course Title: College Physics I
Term: Fall 2013
Days and Times: TR 01:00pm – 02:15 pm
Location: SLC 1.102
Course pre-requisite: MATH 1314
Course co-requisite: PHYS 2125

2. Instructor Contact Information

Instructor: Dr. Fabiano Rodrigues
Office Phone: (972) 883 4526
E-mail address: fabiano@utdallas.edu
Office hours and location: TBD
Teaching Assistant (TA) hours and location: TBD

3. Course Description

- This is a college-level course on physics.
- This is an algebra-based course.
- Topics covered: mechanics, periodic motion, waves, fluids, and thermodynamics.

4. Student Learning Objectives / Outcomes

Upon completing this course, students are expected to:

- Be able to compute the sum, scalar multiplication, and vector multiplication of vectors
- Be able to analyze and explain the components of linear and rotational motion (displacement, velocity, acceleration) including graphs and their interrelationships
- Be able to apply different forces and work force problems including the fundamental force of gravity and Newton's laws
- Be able to classify the different forms of energy and use the conservation of energy to work problems
- Be able to define impulse, momentum and collisions, center of mass and rigid body motion
- Be able to give examples of rotational variables and the relationship between linear and rotational variables
- Explain simple harmonic motion and waves including their properties.
- Identify and describe fluids in motion and at rest.
- Classify heat absorption and heat transfer mechanisms
- Interpret the three laws of thermodynamics and classify the heat absorption and transfer mechanisms

5. Required Textbooks and Materials

College Physics, 9th edition, by Hugh D. Young (**with Masteringphysics.com access**).
MasteringPhysics course ID for this class is **F13PHYS1301RODRIGUES**.

6. Tentative Schedule

Date	Reading Assignment	Material	Homework	
			Released	Due
Week 1	Chapter 0	Introduction and math review		
	Chapter 1	Models, measurements and vectors	08/29	09/07
Week 2	Chapter 2	Motion along a straight line	09/05	09/14
Week 3	Chapter 3	Motion in a plane	09/12	09/21
Week 4	Chapter 4	Newton's laws of motion		
	Chapter 5	Applications of Newton's laws	09/19	09/28
		Exam #1: 9/26		
Week 5	Chapter 6	Circular motion and gravitation	09/26	10/05
Week 6	Chapter 7	Work and Energy	10/03	10/12
Week 7	Chapter 8	Momentum	10/10	10/19
Week 8	Chapter 9	Rotational motion	10/17	10/26
		Exam #2: 10/24		
Week 9	Chapter 10	Dynamics of rotational motion	10/24	11/02
Week 10	Chapter 11	Elasticity and periodic motion	10/31	11/09
Week 11	Chapter 12	Mechanical waves and sound	11/07	11/16
Week 12	Chapter 13	Fluid mechanics	11/14	11/23
		Exam #3: 11/21		
Week 13	Chapter 14	Temperature and heat	11/21	12/07
Week 14	No classes	Fall Break. Enjoy it!		
Week 15	Chapter 15	Thermal properties of matter	12/05	12/14
Week 16	Chapter 16	The second law of thermodynamics	12/10	Not graded
		Final exam: TBD		

7. Assessment

Final grades are determined from a combination of the items below. There will be no curving.

Homework	Exam 1	Exam 2	Exam 3	Final Exam	Total Points
20	20	20	20	20	100

8. Grading Explanation:

A+ (> 97), A (93 - 96.9), A- (90 - 92.9), B+ (87 - 89.9), B (83 - 86.9), B- (80 - 82.9)
 C+ (77 - 79.9), C (73 - 76.9), C- (70 - 72.9), D+ (67 - 69.9), D (63 - 66.9), D- (60 - 62.9), **F (< 60)**

9. UT Dallas Syllabus Policies and Procedures

The information in the link below constitutes the University's policies and procedures:

<http://go.utdallas.edu/syllabus-policies>

10. Attendance, Homework, and Exams

- Attendance is not mandatory but students missing class without documented reason automatically waive their right to any extra credit work and/or quizzes that might be offered during class.
- Please, be kind to your colleagues (and instructor) and avoid interruptions by **turning off** your cell phones, laptops, and other **electronics** during lectures. Also, you are asked to arrive and leave on time.
- **Announcements** about exams and quizzes will be made, primarily, in class.
- **Homework** will be given through the website <http://www.masteringphysics.com>
 - Go to the website, login as a student and follow the instructions.
 - My course ID for this class is **F13PHYS1301RODRIGUES**.
 - **Make sure the name you give the website matches your name of record.**
 - No handwritten homework will be accepted.
 - HW assignments are released on Thursdays at 11:59pm and are due at 11:59pm on the Saturday of the following week (see schedule). Therefore, you have about 10 days to finish each HW.
 - Late HW submissions will not be accepted.
 - I strongly recommend you to print out your homework problems and do the work on your printouts. It is a convenient way to keep everything together. Successful students have done this in the past.
 - You will be allowed to 20 (!) attempts per question.
 - You are welcome to work together on homework but everyone must do their own problems. You will notice everyone has different numbers.
- **Exams** will be in class and written (see dates in the schedule).
 - Valid picture ID (Comet card or drivers license) must be on your desk during exams. These will be checked.
 - Calculators will be necessary for all exams. Graphing calculators and programmable calculators will not be allowed in the exams. A little scientific calculator that has trig functions can be obtained very inexpensively and should be all that is used on the exams.
 - You must show all work for exams. There will be no credit for just numbers (relevant equations are required). You will not receive full credit for correct answers without work.
 - All exams will be closed book. Formulas will be provided with the exam. You must know the concepts and vocabulary for the exams. Exams will cover both in-class examples and homework.
 - Exams must be done in ink.
 - You will be responsible for all the reading assignments even if we do not discuss them in class. This includes the power point slides available on eLearning.
 - Any question about an exam grade must be addressed by the next class day after handing out of the exam to the class. After that all grades are final.

- **Make-up exam:** There will be only one date for make-up exams towards the end of the semester (TBD). To be fair with all students, questions in the make-up exam(s) will be different from those in the regular exams. To be eligible for a make-up exam, you will have to present, within a week from missing an exam, a documented reason (medical note, university letter, etc) justifying your absence during the regular exam.

- As usual, **academic integrity** is expected from all UT Dallas students. Here is a good resource if you need to understand how academic dishonesty affects you:
<http://www.utdallas.edu/deanofstudents/integrity/>

11. Resources for Student Success

In addition to lectures, the following resources are available for student success during this course:

- **Instructor office hours:** At least twice a week and by appointment.
- **TA office hours:** At least twice a week and not on the same days of instructors office hours.
- **Textbook:** The lectures will follow closely the order, material, and notation used in the textbook.
- **Physics Tutors:** The student success center will make Physics tutors available for this class: <http://www.utdallas.edu/studentsuccess/leaders/tutors.html>. Be sure to check their hours.
- **Homework:** Not only they will help you (a) better understand the material seen in class and (b) prepare you for the exams, but they will also be graded so that you will get credit for doing them.
- The instructor will make **Peer-Lead Team Learning (PLTL) sessions** available for PHYS1301 students. These will be 80-minute sessions held once a week that are organized by the Student Success Center and instructor to help students to succeed in this class. Students (8 or less) work together during these sessions on problems that are similar (not the same) to those presented in homework assignments and/or exams. A student who has excelled in this class in previous semesters leads the sessions. Interested students will have to sign up for it. **Note that there will be a limited number of seats available**. Participation in the PLTL program is **highly recommended** by the instructor since the number of lectures and office hours for this class are limited. PLTL leaders will come to class to explain how the PLTL system works.

The material and dates presented in this syllabus can be changed at instructor's discretion.