The University of Texas at Tyler
Syllabus
Fall 2024
College Physics I
Physics 1301
Section 2

Instructor: Dr. Randy Back
Classroom: RBS 2024
Class Time: TR 5:30-6:50
Office: RBN 4047
Phone: (903) 565-5797
Email: rback@uttyler.edu
Office Hours: MWF 10-11 and 12:10-1 or by appointment. You should feel free to stop by my office any time. If I am available, I will be happy to help you.
Course Topics: This course will introduce the student to some basic concepts and principles in physics. Problem solving will be a major component of this class. Major topics covered will include Kinematics, Newton's Laws, Energy, Momentum, Rotational motion and Gravity.
Text:
College Physics - Modified Access

By Knight, Randall D. / Jones, Brian / Field, Stuart
Edition: 4TH 19
Publisher: PEARSON
ISBN 13: 9780136782216
The link below is to the Pearson website. You can purchase access to the homework site and it will come with an electronic copy of the textbook.
https://www.pearson.com/en-us/subject-catalog/p/college-physics-a-strategic-approach/P200000007003/9780136782216

Prerequisite: MATH 1316 or MATH 2312.
Homework: Homework will be done on https://mlm.pearson.com/northamerica/masteringphysics/. The course ID is back04585. Homework is one of the most important parts of this class. You must spend significant time on the homework to really understand this material.
Tests: There will be four tests given during the semester: Test 1 – Sept. 17, Test 2 – Oct. 10, Test 3 – Nov. 5, Test 4 – Dec. 5. Calculators will not be allowed during the tests, unless stated otherwise. The test dates above might change depending on how quickly we cover the material.
Final Exam: The final will cover material from the entire semester. Calculators will not be allowed on the final unless stated otherwise. Your grade on the final will be used to replace your lowest test grade.
Make-up: No late work will be accepted. If you have an excused absence you must make up the work before the due date.
Grading: The components of your final grade are given below

4 Tests - 75 %
HW- 10%
Final - 15 %

Your final letter grade will be given based on the following percentages: A (90%-100%), B (80%-89%), C (70%-79%), D (60%-69%),F (<60%).
Students Rights and Responsibilities
A complete description of student rights and responsibilities can be found on the Canvas page for this course.

The Census day is September 9
Last Day to withdraw from a course is November 4th
The final exam is scheduled for December 10 from 4:15-6:15

Course Objectives/Student Learning Outcomes

1. Critical Thinking Skills (includes creative thinking, innovation, inquiry and analysis, evaluation and synthesis of information)

The student will demonstrate their critical thinking skills by using mathematical models and physical concepts to analyze physical systems. This Student Learning Outcome (SLO) will be assessed using test questions.

2. Communication Skills (includes effective development, interpretation and expression of ideas through written, oral and visual communication

The student will communicate an understanding of the physics principles discussed in class on free response test questions. The questions will require the student to express a qualitative understanding through written communication of the physics concepts covered in class. This SLO will be assessed using test questions.

General Course Information

1. You are responsible for all the material covered in class.
2. Physics builds on itself. It is very important that you do not fall behind on the material.
3. You should read the book multiple times. If you do not understand the material in the book you will not understand the material on the tests.
4. It is very important that you spend time outside class reading the material and doing the homework. The only way you will understand the material is to spend time working the problems.
5. I strongly encourage you to ask questions in class and come by my office any time you need help with physics.
6. Regular classroom attendance is expected.

Online Physics Resources

1. http://lightandmatter.com/
2. http://hyperphysics.phy-astr.gsu.edu/hbase/hframe.html
3. http://www.physicsclassroom.com/
4. http://ocw.mit.edu/courses/physics/

Fall 2024
PHYS 1301
Schedule

8/27- Introduction and Chapter 1 Motion diagrams
8/29-Chapter 2- Graphs
9/3- Chapter 2 -Kinematic Equations
9/5- Chapter 3- Vectors and 2D motion
9/10- Chapter 3- Projectile motion
9/12- Chapter 3- Circular motion
9/17- Test 1
9/19- Chapter 4- Newton's Laws
9/24- Chapter 5- Newton's Laws
9/26- Chapter 5- Equilibrium
10/1- Chapter 5- Newton's 3rd Law
10/3- Chapter 6- Circular Motion
10/8- Chapter 6- Newton's Law of Gravity
10/10- Test 2
10/15- Chapter 7- rotational kinematics
10/17- Chapter 7- torque
10/22- Chapter 7-rotional dynamics
10/24- Chapter 8-static equilibrium
10/29- Chapter 8-static equilibrium
10/31- Chapter 8- springs and Hooke's law
11/5- Test 3
11/7- Chapter 9- impulse and momentum
11/12- Chapter 9- conservation of momentum (inelastic collisions)

11/14– Chapter 9-collisions in 2d and angular momentum
11/19- Chapter 10- work and energy
11/21- Chapter 10- conservation of energy and conservative and non-conservative forces
12/3 -Chapter 10- conservation of energy for a system of objects and collisions
12/5- Test 4