PHYS 2425-03 SYLLABUS

PHYS 2425-03(03H) Physics for Scientists and Engineers I
Spring 2019
MW 15:05-16:20, BMAIN 1.224

Dr Mkhitar Hobosyan
mkhitar.hobosyan@utrgv.edu
Office hours: MW 14:00-15:00, M1, 217

Textbook and Resource Material
Physics for Scientists and Engineers, 9th Edition by Serway and Jewett

The homework will be assigned through WEBASSIGN. Use the following class key to access the homework:

https://www.webassign.net/wa-auth/class-key/enroll
utrgv 5770 7209

Course Description and Prerequisites
Physics for Scientists & Engineers - I is the first of a two-semester course sequence that introduces the student about the principles of mechanics, fluids, heat, waves, and sound for majors in physics and engineering. The course includes three laboratory hours per week to reinforce the concepts taught in the lecture.

Prerequisites: MATH 2413 (or MATH 2487) and concurrent enrollment in MATH 2414 (or MATH 2488).

Learning Objectives/Outcomes for the Course
At the completion of this course, students will be able to:
1. Solve 1-D and 2-D kinematics problems.
2. Apply Newton's laws of motion in various situations.
3. Analyze problems with the principle of conservation of energy.
4. Understand energy and climate change issues in our society and public policies.
5. Analyze problems with the principle of conservation of linear momentum.
6. Analyze problems with the principle of conservation of angular momentum.
7. Calculate the center of mass and momentum of inertia with calculus.
8. Solve various static equilibrium problems.
9. Calculate universal gravitational force and explain orbital motion.
10. Describe physics principles underlying modern technologies such as satellites and rockets that have significant impacts on our lives and culture.
11. Apply the laws in fluid mechanics.
12. Describe simple harmonic motion.
13. Interpret wave equations.
14. Sound waves

Grading Policies
➢ Midterm exams 30%
➢ Final Exam 20%
➢ Homework 25%
➢ Laboratory 25%
➢ Quizzes (Extra credits) 5%

For each chapter, homework problems will be assigned using WEBASSIGN. No homework will be accepted after the assigned deadline. It is to your advantage to stay current on the homework as it provides you with additional practice necessary for the exams. 3 midterm exams are non-comprehensive, 2 highest scored midterm exams will contribute into 30% of the grade. Final exam is comprehensive. The dates will be announced during the class.

Laboratory: Completion of the lab portion is required to pass the course. If you fail the laboratory part, you will get a failing grade for the lecture as well, no matter what grade you expect from the lecture. The passing score for the lab is 60 or above.
Grade Assignment:

90%-100% - A  
80%- 90% - B   
70%- 80% - C  
60%- 70% - D  
Below 60% - F

Materials to bring to class:  
1. A notebook  
2. Scientific calculator.

Calendar of Activities

Include in this section a table or list that provides information for students regarding important dates, assignments or activities. The UTRGV academic calendar can be found at https://my.utrgv.edu/home at the bottom of the screen, prior to login. Some important dates for spring 2019 include:

January 14  First day of classes  
January 17  Last day to add a course or register for spring 2019  
January 21  Martin Luther King Jr. Day – NO classes  
April 10  Last day to drop a course; will count toward the 6-drop rule  
April 19-20  Easter Holiday – NO classes  
May 2  Study Day – NO classes  
May 3-9  Final Exams  
May 10-11  Commencement Exercises

STUDENTS WITH DISABILITIES:

Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

Pregnancy, Pregnancy-related, and Parenting Accommodations

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

Student Accessibility Services:

Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. Edinburg Campus: Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

MANDATORY COURSE EVALUATION PERIOD:

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on or about:

Module 1  February 13 – 19  
Module 2  April 10 – 16  
Full Spring Semester  April 10 – May 1
ATTENDANCE:
Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

SCHOLASTIC INTEGRITY:
As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including self-plagiarism), and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:
In accordance with UT System regulations, your instructor is a “Responsible Employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect that is free from sexual misconduct and discrimination. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at 665-8287, 882-8282, or OVAVP@utrgv.edu.

COURSE DROPS:
According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

STUDENT SERVICES:
Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:
- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)