



Course Title: **PHYS 2113 - General Physics I**

Course Prefix: **PHYS**

Course No.: **2113**

Section No.: **P03**

Department of | **Physics**

College of | **Arts and Sciences**

Instructor Name:

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Prairie View, TX 77446

Office Hours: | **M, T, R, 1:00-2:00 PM**

Virtual Office Hours: |

Course Location: | **New Science Building, Rm. 103**

Class Meeting Days & Times: | **TR, 11:00 AM – 12:20 PM**

Catalog Description: | **(3-0) Credit 3 semester hours. A calculus-based introductory physics course for science and engineering students. Course includes measurement, Newton's laws of motion statics, dynamics, mechanical energy, momentum, circular motion, and selected topics from torque, modules, Newton universal law.**

Prerequisites: | **MATH 1124**

Co-requisites: | **None**

Required Text: | **Essentials of College Physics by Serway & Vuill (Brooks/Cole Cengage Learning)**

Recommended Text/Readings: | **Physics for Scientists and Engineers, 6th Edition**, by Serway and Jewett, ISBN: 0-534-40842-7 and **Physics for Scientists and Engineers, 4th Edition** by Giancoli, ISBN 0-13-227358-6 (Pearson/Prentice Hall)
<http://www.khanacademy.org/>
<http://ocw.mit.edu/courses/physics/8-01-physics-i-classical-mechanics-fall-1999/>

Access to Learning Resources:

Tutors, computers, and reading material are available in NSCI-324
PVAMU Library:

phone: (936) 261-1500;

web: <http://www.pvmu.edu/pvamu/pages/3585.asp>

University Bookstore:

phone: (936) 261-1990;

web: <https://www.bkstr.com/Home/10001-10734-1?demoKey=d>

Course Goals or Overview:

Students will learn fundamental concepts in the field of mechanics applicable to engineers and scientists. This is the first course in calculus-based physics. It is designed for students who plan to major or specialize in one of the areas of science, engineering, or in one of the many areas of technology, including computer science. At least one year of physics is the minimum prerequisite for specialization in one of these fields.

Course Outcomes/Objects Upon completion of this course, it is expected that the students will gain enough knowledge of the theory covered to apply it to the solution of a wide range of practical problems that involve physics. Hopefully this will help the students to better understand the theory of operations of many instruments and devices that they will encounter as they become employed in the various fields mentioned earlier. In addition, it will help them solve new problems that they will possibly meet on their various fields of employment that require basic knowledge of physics. In particular, upon completion of this course, students should be able to demonstrate:

- facility with the physics concepts in the field of mechanics as measured by problem solving on exams
- familiarity with scientific & quantitative methods of thinking
- ability to apply calculus in a real-world physical setting

Course Outcomes/Objectives

		Core Curriculum Objective
1	Students will work on selected problems by inquiry based methods	Critical Thinking
2	Students will discuss and explain fundamental physical science concepts	Communication
3	Students will understand the manipulation and analysis of numerical data	Empirical and Quantitative
4	Students will participate effectively in working on group projects	Teamwork
5	Students will work on assigned research topics and provide as short reports	Communication
6	Students will work on advanced application problems	Empirical and Quantitative

Course Requirements & Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course. *Note: See Program Outcomes in True Outcomes*

- **Lectures:** Attendance of lectures is required, and students are expected to arrive on time, stay for the entire class period, and actively participate. (See the University attendance policy below.) The lecture does not replace reading the materials. The lecture is intended to expand, explain, and offer a different perspective on the material in the textbook.
- **Worksheets:** In-class or overnight worksheets will be assigned often. The worksheets are designed for the student to practice using concepts from recent lectures and assignments, and discover where more study is needed.
- **Homework:** Online homework problems will be assigned on a timely basis. It is the responsibility of the student, individually or within a group, to complete each homework assignment by the due date. The instructor is available during office hours to assist students, and tutors are provided by the Physics Department. It is essential that the student understands the solution to problems if he/she is to succeed in this course; failure to understand homework problems will likely result in a disastrous outcome on exams.
- **Exams and Quizzes:** Four unit exams, several quizzes, and a final exam are scheduled. Only calculators and no other electronic equipment are permitted during the exams and quizzes. Phones are to be tuned off.
- **Late Homework or Missed Tests:** Late homework or homework journal will not be accepted unless the student demonstrates exceptional circumstances. A unit exam may be excused or made-up at the instructor's discretion and only in the case that the student has a valid excuse. Inform the instructor in advance of an exam if there is a valid schedule conflict to schedule an acceptable time. In the event that an emergency occurs that causes an exam to be missed, it is expected that the student provide written evidence and schedule a make-up exam for as soon as possible following the emergency. There may be no opportunity to take the final exam after the scheduled time.

Grading Matrix

Three Tests, each has 23%, total 69%;

five quiz, each has 6%.

There are one homework after one chapter, there are 6-8 homework.

Normally, one can make up one quiz and one test, however, no excuse to miss

The last test which is final.

Grade Determination:

A = 80% – 100%;

B = 65% – 79%;

C = 50% – 65%;

D = 35% – 49%;

F = 0% – 34%

CLASS SCHEDULE

(Schedule Subject to Change)

<u>Week</u>	<u>Topic</u>	<u>Note</u>
1 (Aug 24 - 28)	Ch. 1: Overview	Late Registration & Drop/Add Ends on Aug 27 for Undergrad. & on Sep 1 for Graduate Students
2 (Aug 30 – Sept 2)	Ch. 2: Motion in a Straight Line	Sep 5: Labor Day Holiday, No Classes Sep 4: General Student Assembly (Aug 31)
3 (Sep 5 - 9)	Ch. 3: Motion in Two and Three Dimensions	Sep 07: Last day to withdraw from course without academic record
4 (Sep 12 - 16)	Ch. 3: (continued) §9.4: Centripetal Acceleration	
5 (Sep 19 - 23)	Ch. 4: Force	Test#1
6 (Sep 26 - 30)	Ch. 4: (continued) §9.6: Centripetal Force	
7 (Oct 3 - 7)	Ch. 5: Kinetic Energy, Work, and Power	
8 (Oct 10 - 14)	Ch. 6: Potential Energy and Energy Conservation	Oct 13 - 15: Mid-Term Examination Period
9 (Oct 17 - 21)	Ch. 12 Gravitation	Test#2

10 (Oct 24 – Oct 28)	Ch. 7: Momentum and Collisions	
11 (Oct 31 – Nov 4)	Ch. 8: Systems of Particles and Extended Objects Ch. 9: Circular Motion	Oct 31, Last day to withdraw from course with “W”
12 (Nov 7 – Nov 11)	Ch. 10: Rotation	Nov 11 deadline to apply for spring 2017 graduation
13 (Nov 14 - 18)	Ch. 10: Rotation	
14 (Nov 21 - 25)	Ch. 15: Waves	Nov 24-26 Thanksgiving Holiday
15 (Nov 28 - Nov 29)	Class resume, review	Nov 29 last class day
16 (Nov 30 – Dec 6)	Final exam period	Test #3 Start Friday, Dec 6

University Rules and Procedures

Disability statement (See Student Handbook):

Students with disabilities, including learning disabilities, who wish to request accommodations in class should register with the Services for Students with Disabilities (SSD) early in the semester so that appropriate arrangements may be made. In accordance with federal laws, a student requesting special accommodations must provide documentation of their disability to the SSD coordinator.

Academic misconduct (See Student Handbook):

You are expected to practice academic honesty in every aspect of this course and all other courses. Make sure you are familiar with your Student Handbook, especially the section on academic misconduct. Students who engage in academic misconduct are subject to university disciplinary procedures.

Forms of academic dishonesty:

1. Cheating: deception in which a student misrepresents that he/she has mastered information on an academic exercise that he/she has not mastered; giving or receiving aid unauthorized by the instructor on assignments or examinations.
2. Academic misconduct: tampering with grades or taking part in obtaining or distributing any part of a scheduled test.
3. Fabrication: use of invented information or falsified research.
4. Plagiarism: unacknowledged quotation and/or paraphrase of someone else's words, ideas, or data as one's own in work submitted for credit. Failure to identify information or essays from the Internet and submitting them as one's own work also constitutes plagiarism.

Nonacademic misconduct (See Student Handbook)

The university respects the rights of instructors to teach and students to learn. Maintenance of these rights requires campus conditions that do not impede their exercise. Campus behavior that interferes with either (1) the instructor's ability to conduct the class, (2) the inability of other students to profit from the instructional program, or (3) campus behavior that interferes with the rights of others will not be tolerated. An individual engaging in such disruptive behavior may be subject to disciplinary action. Such incidents will be adjudicated by the Dean of Students under nonacademic procedures.

Sexual misconduct (See Student Handbook):

Sexual harassment of students and employers at Prairie View A&M University is unacceptable and will not be tolerated. Any member of the university community violating this policy will be subject to disciplinary action.

Attendance Policy:

Prairie View A&M University requires regular class attendance. Excessive absences will result in lowered grades. Excessive absenteeism, whether excused or unexcused, may result in a student's course grade being reduced or in assignment of a grade of "F". Absences are accumulated beginning with the first day of class.

Student Academic Appeals Process

Authority and responsibility for assigning grades to students rests with the faculty. However, in those instances where students believe that miscommunication, errors, or unfairness of any kind may have adversely affected the instructor's assessment of their academic performance, the student has a right to appeal by the procedure listed in the Undergraduate Catalog and by doing so within thirty days of receiving the grade or experiencing any other problematic academic event that prompted the complaint.

Technical Considerations for Online and Web-Assist Courses

Minimum Hardware and Software Requirements:

- Pentium with Windows XP or PowerMac with OS 9
- 56K modem or network access
- Internet provider with SLIP or PPP
- 8X or greater CD-ROM
- 64MB RAM
- Hard drive with 40MB available space
- 15" monitor, 800x600, color or 16 bit
- Sound card w/speakers
- Microphone and recording software
- Keyboard & mouse
- Netscape Communicator ver. 4.61 or Microsoft Internet Explorer ver. 5.0 /plug-ins
- Participants should have a basic proficiency of the following computer skills:
 - Sending and receiving email
 - A working knowledge of the Internet
 - Proficiency in Microsoft Word
 - Proficiency in the Acrobat PDF Reader
 - Basic knowledge of Windows or Mac O.S.

Netiquette (online etiquette): students are expected to participate in all discussions and virtual classroom chats when directed to do so. Students are to be respectful and courteous to others in the discussions. Foul or abusive language will not be tolerated. When referring to information from books, websites or articles, please use APA standards to reference sources.

Technical Support: Students should call the Prairie View A&M University Helpdesk at 936-261-2525 for technical issues with accessing your online course. The helpdesk is available 24 hours a day/7 days a week. For other technical questions regarding your online course, call the Office of Distance Learning at 936-261-3290 or 936-261-3282

Communication Expectations and Standards:

All emails or discussion postings will receive a response from the instructor within 48 hours.

You can send email anytime that is convenient to you, but I check my email messages continuously during the day throughout the work-week (Monday through Friday). I will respond to email messages during the work-week by the close of business (5:00 pm) on the day following **my receipt** of them. Emails that I receive on Friday will be responded to by the close of business on the following Monday.

Submission of Assignments:

Assignments, Papers, Exercises, and Projects will distributed and submitted through your online course. Directions for accessing your online course will be provided. Additional assistance can be obtained from the Office of Distance Learning.

Discussion Requirement:

Because this is an online course, there will be no required face to face meetings on campus. However, we will participate in conversations about the readings, lectures, materials, and other aspects of the course in a true seminar fashion. We will accomplish this by use of the discussion board.

Students are required to log-on to the course website often to participate in discussion. It is strongly advised that you check the discussion area daily to keep abreast of discussions. When a topic is posted, everyone is required to participate. The exact use of discussion will be determined by the instructor.

It is strongly suggested that students type their discussion postings in a word processing application and save it to their PC or a removable drive before posting to the discussion board. This is important for two reasons: 1) If for some reason your discussion responses are lost in your online course, you will have another copy; 2) Grammatical errors can be greatly minimized by the use of the spell-and-grammar check functions in word processing applications. Once the post(s) have been typed and corrected in the word processing application, it should be copied and pasted to the discussion board.