PHYS 1401 - College Physics I Course Syllabus

Description
Fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving. Laboratory activities will reinforce fundamental principles of physics listed above.
Prerequisites MATH 1314 & 1316 or MATH 2412

Semester Offered
Not offered every semester
Credits 4
Lecture Hours 3
Lab Hours 3
Extended Hours 0
Contact Hours 96
State Approval Code 40.0801.53 03
Instructor Name Kerry Milam
Semester/Year Fall 2025

Meeting Time and Location
Lecture Tuesday, Thursdays and Fridays on the Carthage High School campus.
Lab MW 7:55 - 9:05 a.m. at Panola College Powell Science Center building room 1309.

Alternate Operations During Campus Closure
In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Panola College to move to altered operations. During this time, Panola College may opt to continue delivery of instruction through methods that include, but are not limited to: online learning management system (CANVAS), online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor Panola College's website (www.panola.edu) for instructions about continuing courses remotely, CANVAS for each class for course-specific communication, and Panola College email for important general information.

Student Basic Needs
Unexpected circumstances may arise, but Panola College offers various resources to support students. If you need mental health services or are facing challenges with transportation, affording class materials and supplies, or accessing food regularly—issues that may impact your class performance—please visit panola.edu/resources.

Class Attendance
Regular and punctual attendance of classes and laboratories is required of all students. When a student has been ill or absent from class for approved extracurricular activities, he or she should be allowed, as far as possible, to make up for the missed work. If a student has not actively participated by the census date, they will be dropped by the instructor for non-attendance. This policy applies to courses that are in-person, online, hybrid, and hyflex.

Attendance in online courses is determined by submission of an assignment or participation in an activity. According to federal guidelines, simply logging into a distance learning course without participating in an

academic assignment does not constitute attendance. Distance learning is defined as when a majority (more than 50%) of instruction occurs when the instructor and students are in separate physical locations. Students must engage in an academic activity prior to the course census date.

When an instructor feels that a student has been absent to such a degree as to invalidate the learning experience, the instructor may recommend to the Vice President of Instruction that the student be withdrawn from the course. Instructors may seek to withdraw students for non-attendance after they have accumulated the following number of absences:

Fall or spring semesters:

3 or more class meeting times per week - 5 absences

2 class meeting times per week - 3 absences

1 class meeting per week - 2 absences

The student is responsible for seeing that he or she has been officially withdrawn from a class. A student who stops attendance in a class without officially withdrawing from that class will be given a failing grade; consequently, the student must follow official withdrawal procedures in the Admissions/Records Office.

Please note: Health Science and Cosmetology courses may require more stringent attendance policies based on their accreditation agencies. Please see the addendum and/or program handbook for further information concerning attendance.

Pregnant/Parenting Policy

Panola College welcomes pregnant and parenting students as a part of the student body. This institution is committed to providing support and adaptations for a successful educational experience for pregnant and parenting students. Students experiencing a need for accommodations related to pregnancy or parenting will find a Pregnancy and Parenting Accommodations Request form in the Student Handbook or may request the form from the course instructor.

Instructional Goals and Purposes

The purpose of this course is to:

1. Demonstrate the ability to apply Newton's Laws and concepts of Conservation of Energy and Momentum to the study of mechanical systems.
2. Describe the Laws of Thermodynamics.
3. Describe proper laboratory methodology and discuss the theory behind its use.
4. Solve mechanics and thermodynamics problems using conservation principles shown.

Learning Outcomes

After studying all materials and resources presented in the course, the student will be able to:

1. Determine the components of linear motion (displacement, velocity, and acceleration), and especially motion under conditions of constant acceleration.
2. Apply Newtons laws to physical problems including gravity.
3. Solve problems using principles of energy.
4. Use principles of impulse and linear momentum to solve problems.
5. Solve problems in rotational kinematics and dynamics, including the determination of the location of the center of mass and center of rotation for rigid bodies in motion.
6. Solve problems involving rotational and linear motion.
7. Demonstrate an understanding of equilibrium, including the different types of equilibrium.
8. Discuss simple harmonic motion and its application to quantitative problems or qualitative questions.
9. Solve problems using the principles of heat and thermodynamics.
10. Solve basic fluid mechanics problems.

Course Content

A general description of lecture/discussion topics included in this course are listed in the Learning Objectives section of this syllabus.

Students in all sections of this course will learn the following content:

Linear and Rotational Motions	Gravitational Processes
Newton's Laws of Motion	Friction
Work-Energy Principles	Fluid Mechanics
Momentum-Impulse Principles	Heat and Thermodynamics

Methods of Instruction/Course Format/Delivery
This course is offered in a classical, face to face manner in a classroom and laboratory format on campus.

Major Assignments/Assessments
The following items are assigned and assessed during the semester and used to calculate the student's final grade.

Course Grade
The grading scale for this course is as follows:

- Labs 25%
- Quizzes 20%
- Homework and Classwork 30%
- Exams 25%

Texts Materials, and Supplies
Required:

- Young and Adams. 2019. Modified Mastering Physics with Pearson eText – Standalone Access Card for College Physics 11th Edition. Pearson Education, New York, NY.

Required Readings
Required:

- Young and Adams. 2019. Modified Mastering Physics with Pearson eText – Standalone Access Card for College Physics 11th Edition. Pearson Education, New York, NY.

Addendum
You will meet at the high school on Tuesdays, Thursday and Fridays for first-period lecture, and you will meet at the college on Monday and Wednesday at 7:45 am for labs. You will need to find your own ride to the college, but if you aren't able to, please see Mr. Milam.

Other

- Courses conducted via video conferencing may be recorded and shared for instructional purposes by the instructor.
- For current texts and materials, use the following link to access bookstore listings: https://www.panolacollegestore.com.
- For testing services, use the following link: https://www.panola.edu/student-services/studentsupport/academic-testing-center.
- The Accommodations & Disability Support (A&DS) Office at Panola College provides and facilitates support services and accommodations for students with disabilities. The A&DS office works under the federal guidelines included in Section 503 of the Rehabilitation Act of 1973 and the American with Disabilities Act. Please contact the Accommodations & Disability Support (A&DS) Office located in the Charles C. Matthews Student Center or go to https://www.panola.edu/disabilitysupport for more information.
- Withdrawing from a course is the student's responsibility. Students who do not attend class and who do not withdraw will receive the grade earned for the course.
- Student Handbook: https://www.panola.edu/ (located on at the bottom under student)