

Course Overview	The AP Physics 1 course outlined reflects a commitment to what physics teachers, professors, and researchers have agreed is the main goal of a college-level physics course: to help students develop a deep understanding of the foundational principles that shape classical mechanics. By confronting complex physical situations or scenarios, the course is designed to enable students to develop the ability to reason about physical phenomena using important science practices, such as explaining relationships, applying and justifying the use of mathematical routines, designing experiments, analyzing data, and making connections across multiple topics within the course.
Course Standards	AP Physics 1 Course and Exam Description (CED) (Pages 17-19)
Instructional Materials	The district AP Physics 1 curriculum follows the CED sequencing except for a few minor adjustments. College Board AP Classroom is embedded in the core curriculum as a resource for practice questions and video explanations. Educational technology such as PhET simulations are included frequently as an alternatives to hands-on lab activities. Online textbooks from Openstax and CK-12 are available as supplemental resources. Optional classroom sets of the College Physics for the AP® Physics 1 Course are encouraged.

Scope & Sequence

Units/Modules & Instructional Days	Assessments & Scanning Deadlines	Standards
Unit 01: Kinematics 12 Days to MUE1 11 Days to UE1 Total: 24 Days	TX_SCI_APPhysics_F26_MUE1 Scanning Deadline: September 17, 2026 TX_SCI_APPhysics_F26_UE1 Scanning Deadline: October 01, 2026	1.1: Scalars and Vectors in One Dimension 1.1.A Describe a scalar or vector quantity using magnitude and direction, as appropriate. 1.1.B Describe a vector sum in one dimension. 1.2: Displacement, Velocity, and Acceleration 1.2.A Describe a change in an object's position. 1.2.B Describe the average velocity and acceleration of an object. 1.3: Representing Motion 1.3.A Describe the position, velocity, and acceleration of an object using representations of that object's motion. 1.4 Reference Frames and Relative Motion 1.4.A Describe the reference frame of a given observer. 1.4.B Describe the motion of objects as measured by observers in different inertial reference frames. 1.5: Vectors and Motion in Two Dimensions 1.5.A Describe the perpendicular components of a vector. 1.5.B Describe the motion of an object moving in two dimensions.
Unit 02: Dynamics 19 Days to MUE2 11 Days to UE2 Total: 24 Days	TX_SCI_APPhysics_F26_MUE2 Scanning Deadline: November 05, 2026 TX_SCI_APPhysics_F26_UE2 Scanning Deadline: November 19, 2026	2.1: Systems and Center of Mass 2.1.A Describe the properties and interactions of a system. 2.1.B Describe the location of a system's center of mass with respect to the system's constituent parts. 2.2 Forces and Free-Body Diagrams 2.2.A Describe a force as an interaction between two objects or systems. 2.2.B Describe the forces exerted on an object or system using a free-body diagram. 2.3: Newton's Third Law

		<p>2.3.A Describe the interaction of two objects using Newton's third law and a representation of paired forces exerted on each object.</p> <p>2.4: Newton's First Law</p> <p>2.4.A Describe the conditions under which a system's velocity remains constant.</p> <p>2.5: Newton's Second Law</p> <p>2.5.A Describe the conditions under which a system's velocity changes.</p> <p>2.6: Gravitational Force</p> <p>2.6.A Describe the gravitational interaction between two objects or systems with mass.</p> <p>2.6.B Describe situations in which the gravitational force can be considered constant.</p> <p>2.6.C Describe the conditions under which the magnitude of a system's apparent weight is different from the magnitude of the gravitational force exerted on that system.</p> <p>2.6.D Describe inertial and gravitational mass.</p> <p>2.7 Kinetic and Static Friction</p> <p>2.7.A Describe kinetic friction between two surfaces</p> <p>2.7.B Describe static friction between two surfaces.</p> <p>2.8 Spring Forces</p> <p>2.8.A Describe the force exerted on an object by an ideal spring</p> <p>2.9: Circular Motion</p> <p>2.9.A Describe the motion of an object traveling in a circular path.</p> <p>2.9.B Describe circular orbits using Kepler's third</p>
<p>Unit 03: Energy 20 Days</p> <p>Half or more of this unit is covered before the Semester Exam in the Fall</p>	<p>TX_SCI_APPhysics_S27_UE3</p> <p>Scanning Deadline: January 21, 2027</p>	<p>3.1: Translational Kinetic Energy</p> <p>3.1.A Describe the translational kinetic energy of an object in terms of the object's mass and velocity.</p> <p>3.2: Work</p> <p>3.2.A Describe the work done on an object or system by a given force or collection of forces.</p> <p>3.3 Potential Energy 3.3.A Describe the potential energy of a system.</p> <p>3.4: Conservation of Energy</p> <p>3.4.A Describe the energies present in a system.</p> <p>3.4.B Describe the behavior of a system using conservation of mechanical energy principles.</p> <p>3.4.C Describe how the selection of a system determines whether the energy of that system changes.</p> <p>3.5: Power</p> <p>3.5.A Describe the transfer of energy into, out of, or within a system in terms of power.</p>
<p>Semester Exam: December 14-18, 2026 Scanning Deadline 1/08/27</p>		
<p>Unit 04: Momentum 13 Days</p>	<p>TX_SCI_APPhysics_S27_UE4</p> <p>Scanning Deadline: February 11, 2027</p>	<p>4.1: Linear Momentum</p> <p>4.1.A Describe the linear momentum of an object or system.</p> <p>4.2: Change in Momentum and Impulse</p> <p>4.2.A Describe the impulse delivered to an object or system.</p> <p>4.2.B Describe the relationship between the impulse exerted on an object or a system and the change in momentum of the object or system.</p> <p>4.3: Conservation of Linear Momentum</p> <p>4.3.A Describe the behavior of a system using conservation of linear momentum.</p> <p>4.3.B Describe how the selection of a system determines whether the momentum of that system changes.</p> <p>4.4: Elastic and Inelastic Collisions</p> <p>4.4.A Describe whether an interaction between objects is elastic or inelastic</p>

Unit 05: Oscillations 7 Days (CED Unit 07) 20 Days	TX_SCI_APPhysics_S27_UE5 Scanning Deadline: February 25, 2027	7.1: Defining Simple harmonic Motion (SHM) 7.1.A Describe simple harmonic motion. 7.2: Frequency and Period of SMH 7.2.A Describe the frequency and period of an object exhibiting SHM. 7.3: Representing and Analyzing SHM 7.3.A Describe the displacement, velocity, and acceleration of an object exhibiting SHM. 7.4: Energy of Simple Harmonic Oscillators 7.4.A Describe the mechanical energy of a system exhibiting SHM.
Unit 06: Rotational Motion (CED Units 5 & 6)	TX_SCI_APPhysics_S27_UE6 Scanning Deadline: April 01, 2027	5.1: Rotational Kinematics 5.1.A Describe the rotation of a system with respect to time using angular displacement, angular velocity, and angular acceleration. 5.2 Connecting Linear & Rotational Motion 5.2.A Describe the linear motion of a point on a rotating rigid system that corresponds to the rotational motion of that point, and vice versa. 5.3: Torque 5.3.A Identify the torques exerted on a rigid system. 5.3.B Describe the torques exerted on a rigid system. 5.4: Rotational Inertia 5.4.A Describe the rotational inertia of a rigid system relative to a given axis of rotation. 5.4.B Describe the rotational inertia of a rigid system rotating about an axis that does not pass through the system's center of mass. 5.5: Rotational Equilibrium & Newton's First Law (Rotational) 5.5.A Describe the conditions under which a system's angular velocity remains constant. 5.6: Newton's Second Law in Rotational Form 5.6.A Describe the conditions under which a system's angular velocity changes. 6.1: Rotational Kinetic Energy 6.1.A Describe the rotational kinetic energy of a rigid system in terms of the rotational inertia and angular velocity of that rigid system. 6.2: Torque and Work 6.2.A Describe the work done on a rigid system by a given torque or collection of torques. 6.3: Angular Momentum and Angular Impulse 6.3.A Describe the angular momentum of an object or rigid system. 6.3.B Describe the angular impulse delivered to an object or rigid system by a torque. 6.3.C Relate the change in angular momentum of an object or rigid system to the angular impulse given to that object or rigid system. 6.4: Conservation of Angular Momentum 6.4.A Describe the behavior of a system using conservation of angular momentum. 6.4.B Describe how the selection of a system determines whether the angular momentum of that system changes. 6.5: Rolling 6.5.A Describe the kinetic energy of a system that has translational and rotational motion. 6.5.B Describe the motion of a system that is rolling without slipping. 6.5.C Describe the motion of a system that is rolling while slipping. 6.6: Motion of Orbiting Satellites 6.6.A Describe the motions of a system consisting of two objects interacting only via gravitational forces.

Mock Exam Window: March/April, 2027 Scanning Deadline: April 09, 2027		
Unit 07: Fluids 13 Days (CED Unit 08)	TX_SCI_APPhysics_S27_UE7 Scanning Deadline: April 29, 2027	8.1: Internal Structure and Density 8.1.A Describe the properties of a fluid. 8.2: Pressure 8.2.A Describe the pressure exerted on a surface by a given force. 8.2.B Describe the pressure exerted by a fluid. 8.3: Fluids and Newton's Laws 8.3.A Describe the conditions under which a fluid's velocity changes. 8.3.B Describe the buoyant force exerted on an object interacting with a fluid. 8.4: Fluids and Conservation Laws 8.4.A Describe the flow of an incompressible fluid through a cross-sectional area by using mass conservation. 8.4.B Describe the flow of a fluid as a result of a difference in energy between two locations within the fluid Earth system.
AP Exam Review 10 days	N/A	Targeted review of key skills and content gaps identified from student data.
AP Physics 1 Exam: May 05, 2027 (Prediction only)		
Extra Enrichment activities and labs 5-10 days	N/A	

College Board Advanced Placement Alignment

Instruction in this course is aligned to the College Board AP Standards described in the Course and Exam Description (CED) document.

Instructional Materials

Optional Online Textbook – [openstax College Physics for AP Courses \(Chapters 1-12 & 16.1 – 16.5\)](#)

Supplemental instructional materials may be used to support instruction. Supplemental materials do not replace board-approved core instructional materials.

Instructional Expectations

Instruction is delivered using board-approved instructional materials and aligned to the scope and sequence outlined above. Teachers are expected to ensure all required standards are taught within the course timeframe.

Assessment Overview

Student learning is monitored through formative and summative assessments aligned to course standards. Assessment results are used to inform instruction and student supports. Students participate in the College Board AP Exam Testing in May 2027.