

AP PHYSICS 1 SYLLABUS 2026-2027

Room: Science Lab **Tuesday & Thursday** 1:05 PM to 2:35 PM **Owen Davis** - okdavis59@gmail.com

Course Description and Content:

AP Physics 1 is an **active exploration of the physical world** where you will uncover hidden rules of nature. The course is not about memorizing formulas, you will instead use **inquiry-based labs** to investigate and understand how objects move, how forces interact, and how energy flows. The course also includes basic fluid mechanics, allowing you to connect fluid pressure and airflow directly to foundational laws of motion. It is an exciting journey where kinematics, torque, and fluid dynamics weave together into a single, brilliant fabric that explains everything from the orbit of planets to the lift of an airplane wing. AP Physics 1 is an **introductory college-level course that mathematically uses algebra and some trigonometry.**

Kinematics (Motion of Objects) -- Displacement, Velocity, and Acceleration - Relative Motion - Vectors and Motion in Two Dimensions

Force and Translational Dynamics – Systems of Objects - Newton's Laws 1, 2, and 3 - Gravitational, Friction, and Spring Forces - Circular Motion

Linear Momentum – Change in Momentum - Conservation of Momentum - Elastic and Inelastic Collisions

Work, Energy, and Power – Kinetic and Potential Energy - Conservation of Energy - Work and Power

Torque and Rotational Dynamics – Connecting Linear and Rotational Motion - Rotational Inertia and Equilibrium - Newton's First and Second Laws for Rotational Motion

Energy and Momentum of Rotating Systems – Kinetic Energy, Torque, and Work - Conservation of Angular Momentum - Rolling Objects and Motion of Orbiting Satellites

Oscillations – Objects in Simple Harmonic Motion - Energy of Simple Harmonic Oscillator Systems

Fluids – Density - Buoyancy - Pressure - Fluids and Newton's Laws - Fluids and Conservation Laws

Course Resources:

AP Classroom: <https://myap.collegeboard.org/login> Create a Student Account then use Join Code: LPNE2Q

Online Textbook: <https://openstax.org/books/college-physics-ap-courses-2e>

Graphing Calculator: TI-84 Plus CE, check AP Classroom for other equivalent options.

Grading Policy:

Grades will be based on the following assignments:

Homework 10% -- The most important work for your success!

Classroom Lab Activities 10%

Quizzes 40% (Homework Quizzes, Lab Quizzes, and Unit Quizzes)

Exams 40% (20% Midterm Exam & 20% Final Exam)

Note: Points and assignments above may be subject to change.

Additional Help:

The most important help will come from collaborating with each other whenever possible. I will be available through the Jupiter Student Information System, and on campus during the school days if and when possible.

General Policies:

Cell Phones, Missed Assignments or Exams, Academic Integrity, and other policies will closely adhere to the Torah High School policies outlined in the Student-Parent Handbook.