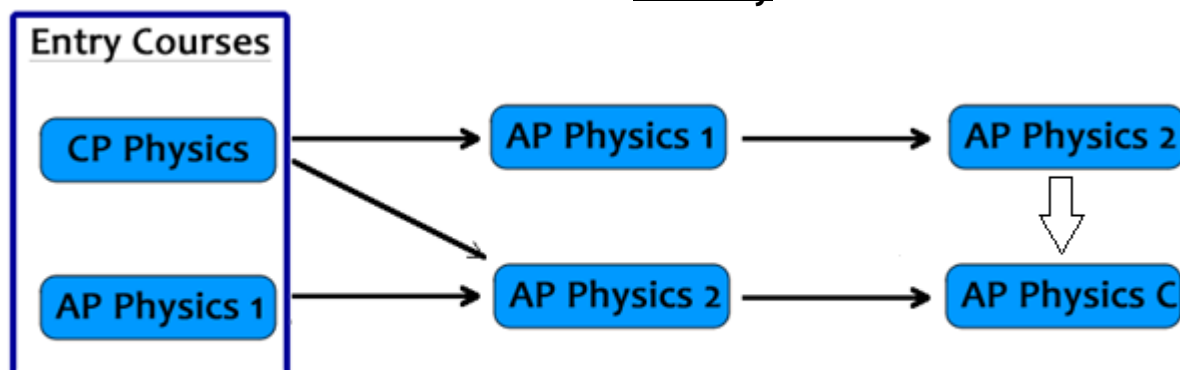


CCA Physics

The prerequisites for college preparatory Physics remains the same; however, according to College Board, AP Physics 1 will no longer require any type of physics course as a prerequisite. As long as students have taken Geometry and are concurrently enrolled in Algebra II, they should have the math skills to be successful in AP Physics 1. Students can successfully complete physics for college admission by taking either college preparatory Physics or AP Physics 1. If students would like to continue with further Physics coursework, there are a number of options:

Pathway



Frequently Asked Questions:

1. Which course should a student start out within the Physics pathway?

	College Prep. Physics	AP Physics 1
Math Level	Completion of Geometry and concurrent enrollment in Algebra II or Integrated Math II	Completion of Geometry and concurrent enrollment in Algebra II OR Integrated Math III
Content and Pace††	Slower pace; covers the California State Standards	Faster pace; covering AP Physics curriculum and California State Standards in greater depth of knowledge
Future	Student is not planning to major in science or engineering in college	Student is planning to major in science or engineering in college

† Review the details about the content covered in AP Physics 1 on page 3.

2. If a student wants to major in science or engineering in college, which physics course should the student start with?
If the student has passed Algebra II, the best course would be AP Physics 1.

3. Can a student skip college prep Physics and AP Physics 1 and go directly into AP Physics 2?

No, students must start with college prep Physics or AP Physics 1.

4. What are the differences between AP Physics 1 and AP Physics 2?

AP Physics 1	AP Physics 2
1-D Motion	Heat and Thermodynamics
2-D Motion	Electricity
Momentum	Magnetism
Forces	Electric-magnetism
Circular Motion	Optics
Universal Gravity	
Rotational Motion	
Static Equilibrium	
Simple Harmonic Motion	
Energy, Work and Power	
Waves	

5. If a student passes AP Physics 1, does he or she have to take AP Physics 2? Will students be missing any content if they do not take AP Physics 2?

Students should take AP Physics 1 and AP Physics 2 in order to not miss content. If you are only able to commit to 1 term of physics, take CP Physics to have a solid physics education.

++Additional Material covered in AP 1 not covered in college preparatory Physics

<p>Ongoing Connecting Theme Throughout Course</p> <ul style="list-style-type: none"> • Theory of Relativity 	<p>Universal Gravity</p> <ul style="list-style-type: none"> • Solve problems including gravity and acceleration. • Investigate Satellite Motion, Elliptical Motion, and Kepler's Laws.
<p>Two-dimensional Kinematics</p> <ul style="list-style-type: none"> • Solve two-dimensional trajectory problems using kinematics equations and vectors. <ul style="list-style-type: none"> ○ Launched at an angle from a cliff ○ Define and identify equilibrium situations ○ Solve Static Equilibrium Problems ○ Solve Stability and Balance Equations 	<p>Simple Harmonic Motion</p> <ul style="list-style-type: none"> • Derive and use equations to solve Pendulum problems. • Derive and use equations for Spring problems. • Relate Simple Harmonic Motion to Wave Motion
<p>Momentum</p> <ul style="list-style-type: none"> • Identify situations in which two-dimensional momentum is conserved. • Solve problems involving two-dimensional elastic and inelastic collisions in one dimension by using the principles of conservation of momentum. • Introduce momentum and energy relationships. 	<p>Energy</p> <ul style="list-style-type: none"> • Solve problems involving Conservation of Energy in two-dimensional systems. • Application of Conservation of Energy to kinematics and force problems. • Introduce Momentum and Energy relationships. • Work and Power <ul style="list-style-type: none"> ○ Relate work and power to describe change in energy. ○ Derive and use work and power equations to solve problems. • Solve Static Equilibrium Problems using Energy, Work, and Power applications • Solve Stability and Balance Equations using Energy, Work, and Power concepts
<p>Forces</p> <ul style="list-style-type: none"> • Use the law $F=ma$ to solve two-dimensional motion problems that involve constant forces (Newton's 2nd Law). • Solve Force problems with inclined planes. • Solve Static Equilibrium Problems using Force applications • Solve Stability and Balance Equations using Force applications 	<p>Circular Motion</p> <ul style="list-style-type: none"> • Use force equations with Rotational motion. • Solve problems addressing Rotational Inertia. • Application of Torque problems. • Solve Torque problems using Newton's Second Law and Static Equilibrium Concepts.
<p>Heat and Thermodynamics</p> <ul style="list-style-type: none"> • Kinetic energy derivations to temperature. 	<p>Waves</p> <ul style="list-style-type: none"> • Relate sound and simple harmonic motion • Describe and predict damped harmonic motion.