

## Science Infinity Physics Syllabus

Physics 2 is intended to build off Physics 1. It is recommended that students take Physics 2 only after taking Physics 1. This syllabus will be a condensed version of the AP Physics 1 syllabus.

Topics include a brief review of Physics 1 topics; rotational motion; electrostatics; electric circuits; electricity and magnetism; optics; fluids; and thermodynamics.

### Supplies

Students should bring a notebook and pencil to class every day to take notes and practice during class. In addition, a calculator is very useful and highly recommended.

Potential Textbook: [https://cnx.org/contents/1Q9uMg\\_a@11.2:2cmfxapY@11.2/Chapter-Review](https://cnx.org/contents/1Q9uMg_a@11.2:2cmfxapY@11.2/Chapter-Review)  
<https://openstax.org/details/books/college-physics-ap-courses>

### Unit 1: mechanics

- Units and measurement
- Vectors
- Motion along a straight line
- Motion in 2d & 3d
- Projectile motion
- Uniform circular motion
- Relative motion in 1d & 2d
- Chapter review

Topic	Subtopic
Electricity	The Nature of Electric Charge Coulombs Law Current and Electricity Electric Resistance Electric Power and Energy Major Equations Capacitance
Electricity	Parallel and Series Circuits Graphs of Electrostatics Electric Field Review and Practice Problems
Atomic and Nuclear Physics	Atomic Structure Emission and Absorption Spectra Nuclear structure Radioactivity Half-life

	<p>Nuclear reactions Fission, fusion, and antimatter</p>
Wave Phenomena (cont'd)	<p>Nature and Production of Stationary Waves Boundary Conditions and Resonance Doppler Effect Diffraction Resolution Polarization</p>
Thermal Physics	<p>Thermal Concepts Heat and Internal Energy Specific Heat Capacity Phases of matter Latent Heat Molecular Model of an ideal gas Fluids and intro to thermodynamics</p>
Optics	<p>Types of mirrors and lenses Important Equations Ray tracing Review of resolution Electromagnetic Waves Interference and Diffraction Total Internal Reflection</p>