

Course Description

AP Physics B (non-calculus based)

- A) **Prerequisites:** Must have completed Chemistry and Math II (AP Physics may be taken by a junior or a senior)
- B) **Careers or College majors:** Needed for any type of science major, specifically, engineering, architecture, pre-med or of course physics.
- C) **College Credit:** Check with the college of your choice to find out if college credit is available. Most importantly, the course prepares you for the rigor of a science or engineering course in college.
- D) **Math:** AP Physics B makes use of the algebra skills that you have developed up to this point, and helps you improve those skills. A strong algebra foundation will help you in the class. Some basic trigonometry will be used.

E) **Topics:**

I. Newtonian

Mechanics 35%

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| A. Kinematics | B. Newton's laws of motion |
| C. Work, energy, power | D. Systems of particles, linear momentum |
| E. Circular motion and rotation | F. Oscillations and gravitation |

II. Fluid Mechanics and Thermal

Physics 15%

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| A. Fluid Mechanics | B. Temperature and heat |
| C. Kinetic Theory and thermodynamics | |

III. Electricity and Magnetism

25%

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| A. Electrostatics | B. Conductors, capacitors, dielectrics |
| C. Electric circuits | D. Magnetic Fields |
| E. Electromagnetism | |

IV. Waves and Optics 15%

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| A. Wave motion (including sound) | B. Physical Optics |
| C. Geometric optics | |

V. Atomic and Nuclear

Physics 10%

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| A. Atomic physics and | B. Nuclear physics |
| C. Quantum effects | |