



### CP Physics

College Preparatory Physics is designed for the 11<sup>th</sup> or 12<sup>th</sup> grade student who has an interest in how the physical world works, or whose career interests require an understanding of physics. This course is intended to expose the student to concepts in physics that would be covered in an introductory non-calculus based physics course taken in college. Topics include: kinematics, dynamics, momentum, and energy (time permitting). This course is offered for one semester, and students attend class for one 75 minute block a day. Students should read their textbooks independently keeping pace with the course topics. Students are expected to do homework when it is assigned. Quizzes and tests are given for each unit. The tests and quizzes contain a variety of question types including short answer and essay. There will also be several labs in this course that enhance the topics being discussed.

#### By the end of CP Physics, students will know:

- **Prerequisites** - the students will be shown the importance of mathematics in science. They will spend a significant amount of time at the beginning of the course applying previously learned mathematical skills in order to be prepared for the mathematical rigor that is required in physics.
- **Kinematics** - the students will be able to describe the motion of objects in a scientifically literate manner using descriptions, equations, diagrams, and graphical methods.
- **Dynamics** - the students will be able to describe the causes of motion in a scientifically literate manner using descriptions, equations, diagrams, and graphical methods.
- **Momentum** - the students will develop a thorough understanding of momentum, and use the Law of Conservation of Momentum to explain phenomena and solve problems.
- **Energy** - (time permitting) the students will develop a thorough understanding of energy, and use the the Law of Conservation of Energy to explain phenomena and solve problems.

It is strongly suggested that students have completed CP Precalculus prior to taking CP Physics. Most struggles in physics do not occur because of a lack of understanding of the physics concepts. Struggles tend to be math related. Completing CP Precalculus with a B or better should eliminate any mathematical struggles in this course.