

Advanced Physics

Text:	<i>Holt Physics 2006</i>
Supplemental Materials:	Resource and laboratory activities from various sources
Course Description:	<p>Advanced college preparatory physics at SCPS is an algebra and trigonometry based course in mechanics, electricity, matter, waves, and modern physics. These principles are extensive in scope and cover a broad range of concepts, preparing a student for success in college science subjects. The goal of this class is to build a conceptual framework through experimentation and investigation while developing study and computational skills necessary to apply concepts in a scientific manner.</p> <p>This course is intended for strong math/science students in grade 9 to replace Conceptual Physics and for upper classmen to expand their understanding of conceptual physics or physical science.</p>
Methods of Evaluation:	Students are evaluated through objective tests, quizzes and laboratory reporting. Students also take a comprehensive exam at the end of both semesters. The tests, labs and activities of this class assess mastery of content, not effort.
Pace of Instruction:	<p>This course meets 45 minutes daily. A lab activity is performed on average once every two weeks, depending on unit topic.</p> <p><u>First Semester</u></p> <ul style="list-style-type: none">I. Math Skills – graphical, numerical, calculationII. 1 Dimensional MotionIII. 2 Dimensional MotionIV. Motion and ForcesV. Newtonian MotionVI. Rotational and Circular MotionVII. Momentum, Work, Power and Energy <p><u>Second Semester</u></p> <ul style="list-style-type: none">VIII. ElectrostaticsIX. Current Electricity (DC circuits)X. MagnetismXI. Waves and SoundXII. Light - Refraction, reflection and diffractionXIII. Nuclear PhysicsXIV. ThermodynamicsXV. Fluids