

2018-2019

High School Physics

Tuesday 9:35 – 11:00

Grade Level: 10 – 12

Prerequisite: Algebra 1, plus an introduction to trig

Teacher: Laura Briggs

Student Fee: \$40

Class Size: minimum of 4 / maximum of 12

Class Overview:

This college-prep physics course is designed for the student who has completed algebra and has had an introduction to the definitions of sine, cosine, and tangent. It provides a detailed introduction to the methods and concepts of general physics. Heavily emphasizing vector analysis, this text is ideal preparation for a university-level physics course. It provides the student with a strong background in one-dimensional and two-dimensional motion, Newton's laws and their application, gravity, work and energy, momentum, periodic motion, waves, optics, electrostatics, electrodynamics, electrical circuits, and magnetism.

Required Text: Exploring Creation with Physics – 2nd edition (Apologia – Dr. Jay L. Wile) Students only need to purchase or borrow Wile's two-volume set: the student text and the solutions and tests volume. I saw this combination for under \$70 new; I'll have a few copies to rent.

Class Time: During class time we will perform experiments and analyze results, and solve mathematical problems introduced in the physics book. Students will be expected to maintain a laboratory notebook.

Tests: Tests are provided in the curriculum, and should be taken by the student at home. Parents will be expected to proctor tests; the final grade on each will be assigned by the teacher. Tests will be reviewed in class after they are completed. A two-hour midterm and final exam will be scheduled outside of class time in January and May.

Homework: There will be weekly homework assignments, which will include reading from the text, doing calculations, and/or other activities to help students learn the material. Students will be expected to complete assigned homework, tests and lab write-ups each week; estimated time per week for students is 6 to 8 hours. A "Science Fair" project will be required and displayed at the Year End Event. We usually attend Physics Day at Six Flags in April.

Grades: We will record grades and provide semester grade reports to parents based on tests, lab reports, homework, and midterm and final exam scores.

Class Expectations: Students should have completed Algebra I, and have had an introduction to sin, cos and tan. Students will be expected to keep up with the volume of work; those who fall seriously behind may be asked to complete the class on their own because they will be unable to participate adequately in class activities and labs. Physics is a challenging science, and students will need to humbly ask for help if they are struggling. Parents and students will need access to email for communication with the teacher.