Course Syllabus

Physics

Course Description:

This is a highly mathematical, (algebra-based) high school physics course.

The textbook, written in a conversational style, clearly explains the physics principles. Students will develop a strong foundation in physics through reading, attending lectures, doing problems, performing experiments, writing lab reports, and participating in discussions.

The curriculum covers such concepts as: kinematics, Newton's laws of motion, work and energy, momentum, circular motion, periodic motion, sound, waves, optics, electrostatics, circuits, and magnetic fields.

Additional content will include units on nuclear physics and relativity, the use of virtual labs via Phet simulations, conceptual applications of the material presented, and "Mad Science" presentations of corollary material topics, such as black holes, helicopter physics, shock absorbers, boomerangs, lasers, maglev trains, eddy current braking, antimatter, etc.

Major Topics of Study:

Physics

Text/Required Materials:

Discovering Design with Physics by Dr. Wile

Grading:

Exams – 54%
Lab Reports – 32%
Homework Problems – 14%

Attendance/Participation:

Class attendance and participation contribute to the student's understanding of the material and are strongly encouraged.

Expectations/Guidelines:

Success in physics will require that the student have a good working knowledge of Algebra 2, that he or she read the material in the textbook, come to class, do the homework problems and the experiments and study for the exams. He/she must keep up with the required work. Physics really can’t be learned at the last minute.