

HBHS Science Curriculum Trajectory

Course:

Physics: Principles and Problems

Course Description:

This course is designed for college-bound students who are interested in science or a related major. Concepts will be explored with a strong mathematical emphasis. Topics include Newtonian Mechanics (kinematics, dynamics, energy, momentum and angular studies) as well as studies in electricity and wave behaviors. Projects and lab work play an important role in this course.

Units of study:

Measurement, Mechanics, States of Matter, Waves and Light, Electricity & Magnetism, Modern Physics

Course Standards: Students will be able to:

- Demonstrate the 4'C standards (creativity, communication, critical thinking, and collaboration)
- Use the scientific method, engineering practices and inquiry based learning and describe those findings in a lab report
- Measure and estimate error
- Measure and describe motion as it relates to Newton's Laws and through the use of relevant mathematical equations
- Distinguish between the concepts of matter and energy
- Describe the behavior of waves the transfer of energy
- Describe the forces of electricity and magnetism
- Understand atomic theory and its application to modern physics