

General Course Information

Course Name: AP Physics II	
Department: Science	Grade Level(s): 11-12
Duration/Credits: 1 year/ 1 credit	Prerequisites: Physics or AP Physics I
BOE Approval Date: December 2022	Course Code:
Course Description:	
Students will expand their understanding of physics as they explore topics such as fluids; thermodynamics; electric force, field, and potential; electric circuits; magnetism and electromagnetic induction; geometric and physical optics; and quantum, atomic, and nuclear physics. They will do hands-on and inquiry-based in-class activities and laboratory work to investigate phenomena.	
Course Rationale:	
This course gives students interested in furthering their study of physics an opportunity to explore topics not covered in a first-year class. For students planning on continuing in science or engineering in their post-secondary education, this class gives them wider exposure to more topics in physics and a better understanding of the opportunities they may have to pursue in the future. For other students, any knowledge of the scientific world around them makes them better citizens and members of a global community.	
Course Objectives:	
BIG IDEA 1: SYSTEMS (SYS) Objects and systems have properties such as mass and charge. Systems may have internal structure.	
BIG IDEA 2: FIELDS (FLD) Fields existing in space can be used to explain interactions.	
BIG IDEA 3: FORCE INTERACTIONS (INT) The interactions of an object with other objects can be described by forces.	
BIG IDEA 4: CHANGE (CHA) Interactions between systems can result in changes in those systems.	
BIG IDEA 5: CONSERVATION (CON) Changes that occur as a result of interactions are constrained by conservation laws.	

BIG IDEA 6: WAVES (WAV) Waves can transfer energy and momentum from one location to another without the permanent transfer of mass and serve as a mathematical model for the description of other phenomena.

BIG IDEA 7: PROBABILITY (PRO) The mathematics of probability can be used to describe the behavior of complex systems and to interpret the behavior of quantum mechanical systems.

A+ Objectives

The student will research scientific explanations and theories to support his or her physics investigations. (A+: Research)

The student will be able to analyze and describe the relationships between electric force, field, and potential. (A+: Writing)

The student will be able to evaluate information to describe and discuss how Bernoulli's Law describes why something floats or sinks. (A+: Speaking).

The student will read, analyze and discuss quantum physics models can address the incongruities and conflicts in classical Newtonian physics (A+: Reading)

Standards Alignment:

List standard set(s) to which course has been aligned