



# ADVANCED PLACEMENT PHYSICS

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Insert Teacher Name

Insert Room Number

Full Year

Insert Period

Insert Email Address

## COURSE DESCRIPTION

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The Advanced Placement Physics course provides a systematic introduction to the main principles of physics at the first year college level. This course provides a foundation in physics for students interested in the physical sciences, engineering, life sciences, medicine, geology and related areas. Knowledge of algebra, trigonometry, and a high school physics course are required. The basic ideas of calculus are introduced in connection with physical concepts such as acceleration. A major goal of the course is to apply these principles to the solution of problems. The laboratory components of the course offer many experiences dealing with advanced topics and skill. Students will learn how to use the Michelson interferometer, gas discharge tubes,  $e/m$  fine beam apparatus, Millikan oil drop apparatus, lasers, oscilloscopes, and other sophisticated equipment. **This course is part of the University of Connecticut's ECE Program and students can apply for 8 college credits of Physics 1201Q and 1202Q at the University of Connecticut.**

## COURSE OBJECTIVES

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Students will understand that:

- Newton's laws predict the motion of most objects
- The laws of conservation of energy and momentum provide a way to predict and describe the movement of objects. Energy cannot be created or destroyed although, in many processes, energy is transferred to the environment as heat
- Waves have characteristic properties that do not depend on the type of wave
- Electric and magnetic phenomena are related and have many practical applications

## UNITS OF STUDY

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- Newtonian Mechanics
- Fluid mechanics and thermal physics
- Electricity and magnetism
- Waves and optics
- Atomic and nuclear physics

## COURSE POLICIES AND REQUIREMENTS

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### GRADING

Summative Assessments:	100%
	Insert Categories/Weighting (ie. Papers – 30%)
Formative Assessments:	0%
Behavioral Characteristics:	0%

Insert Additional Grading Information Here

**MATERIALS**

Insert Course Materials Here (ie. Textbook, Binder, Calculator, Highlighters)

**EXPECTATIONS OF STUDENTS**

Insert Course Expectations Here

**EXTRA HELP**

Insert Course Expectations Here

Insert Additional Information Here