



# PHYSICS 41

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Insert Teacher Name

Insert Room Number

Full Year

Insert Period

Insert Email Address

## COURSE DESCRIPTION

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This course is an advanced sequence course for students wishing to take an Advanced Placement science course in the 12th grade. Some of the areas studied include: light and waves; mechanics; and electricity and magnetism. The emphasis is on basic concepts, analysis of laboratory data and problem solving. Students in Physics 41 are self-directed learners with demonstrated mathematical and problem-solving ability. Students wishing to prepare for the AP Physics B or C examination should take Physics 41 and AP Physics 51.

## COURSE OBJECTIVES

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Students will understand that:

- scientific numeracy includes the ability to use mathematical operations and procedures to calculate, analyze and present scientific data and ideas.
- waves have characteristic properties that do not depend on the type of wave.
- 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.
- electric and magnetic phenomena are related and have many practical applications.

## UNITS OF STUDY

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- Light – Electromagnetic Radiation - Nature and Behavior of Light
- Light – Electromagnetic Radiation – Refraction
- Light – Electromagnetic Radiation – Interference
- Light – Electromagnetic Radiation – Diffraction
- Mechanics - The Motion of Objects Kinematics
- Mechanics - The Motion of Objects Vectors
- Mechanics - The Motion of Objects Motion in Two Dimensions
- Mechanics - The Motion of Objects Dynamics
- Mechanics - The Motion of Objects Circular Motion and Gravitation
- Mechanics - The Motion of Objects Conservation of Momentum
- Mechanics - The Motion of Objects Work and Energy
- Electricity and Magnetism - Static Electricity
- Electricity and Magnetism - Current Electricity
- Electricity and Magnetism – Magnetism

## COURSE POLICIES AND REQUIREMENTS

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### GRADING

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

Behavioral Characteristics: Insert Categories/Weighting (ie. Quizzes – 50%)  
0%  
Insert Categories/Weighting (ie. Particip. - 90%)  
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