

# AP Physics 1

This course will focus on the underlying principles and concepts that explain how the mechanics of the Universe and Engineering works. This course will help you gain a better understanding of how our physical Universe works and thus, give you a basis for success in all areas of science, at every level including AP Physics 2, college science and careers in science (eg. Engineering, Chemistry, Biology or Environmental).

Due to an emphasis on study skills and habits, this course is highly recommended for students planning to take other Advanced Placement courses during high school.

## Units of Study

### Unit 1 – Kinematics

- Study of the motion of objects.

### Unit 2 – Dynamics

- Study of what causes motion to change or stay constant.

### Unit 3 – Circular Motion and Gravitation

- Study of the motion change that explains the motions of objects in outer space.

### Unit 4 – Energy

- Study of what gives objects the ability to do work.

### Unit 5 – Momentum

- Study of the teamwork between two inherent aspects of objects – motion and mass.

### Unit 6 – Simple Harmonic Motion, Mechanical Waves and Sound

- Study of motion that repeats itself.

### Unit 7 – Torque and Rotational Motion

- Study of what causes objects to spin

### Unit 8 – Electric Charge, Force and DC Circuits

- Study of the physical nature of charged particles

## Are there any prerequisites for AP Physics 1?

There are no official prerequisites for AP Physics 1. However, this is a college level course, and a strong background in science and mathematics is beneficial. It does fulfill your "Physical Science" A-G requirement

## What kinds of questions are on the AP Physics 1 Exam?

The AP Physics 1 Exam includes both a 90 minute multiple choice section and a 90 minute free response section that has 5 parts.

## What specific skills do middle school students need to have to be successful in AP Physics 1?

Ability to read, write and think critically about the connections and changes specific to scientific concepts. Manage time wisely. Collaborate with other students and advocate for himself/herself.

Teacher: Joseph Murray



## More Information

### Difficulty

College course content, but in a high school setting (including lots of support and guidance)

### Average Workload

Regular reading assignments of 5-15 pages, more emphasis on quizzes and tests, in-class labs and hands on activities, approximately 3-5 hours per week of out of class time needed for the typical AP Physics 1 student.

### Typical Schedule

Most students taking the course also take mainly Advanced-level courses.

### GPA Impact

Weighted GPA average of 10 points (on average, NOT on the grade).

## Why take AP Physics 1?

- Increases the scientific literacy that is essential to success at any next level (College or Career).
- You will make relevant connections to everything going on in the physical world today.
- Get the foundational skills that will prepare you for future AP Classes, especially science
- Potential college credit