AP Physics Courses In MCPS

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Learning Engagements:

- Overview of the AP Physics 1/2 and AP Physics C courses
- Examine the pacing of the content in the course
- Course sequencing and content pacing
- AP Exams
- Which course should you take

Course Overviews

AP Physics 1

AP Physics 2

AP Physics C Mechanics

AP Physics C Electricity and Magnetism

AP Physics 1 and AP Physics 2

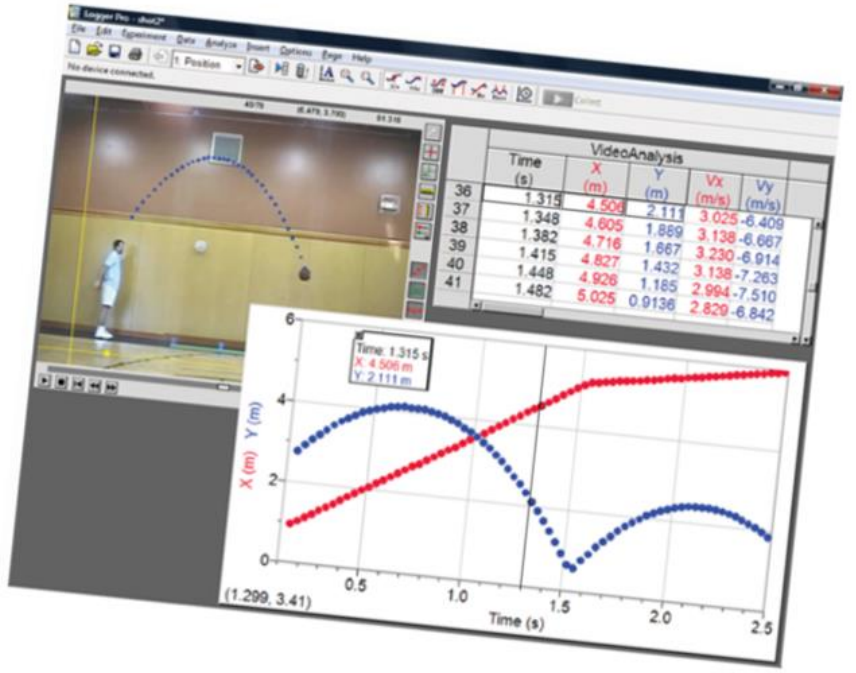
AP Physics 1 & 2 are college level, non-calculus based, physics courses. They effectively cover all of the topics in a traditional high school physics curriculum, but at a higher level of difficulty. No prior coursework in physics is necessary.

AP Physics 1

This NGSS aligned course is for highly motivated students with an interest in the physical sciences and builds on concepts covered in Physics with greater detail in content and laboratory investigations. Students explore Newtonian mechanics, including rotational dynamics and angular momentum; work, energy, and power; and mechanical waves and sound. Electric circuits will be introduced. **Prerequisite:** Geometry **Corequisite:** Algebra 2

AP Physics 1:

- Kinematics
- Dynamics
- Circular motion, rotation, Gravitation
- Simple Harmonic Motion
- Momentum
- Mechanical energy
- Electrostatics & Circuits (introductory)
- Waves & Optics



AP Physics 1

Demo and sample of questions asked in class

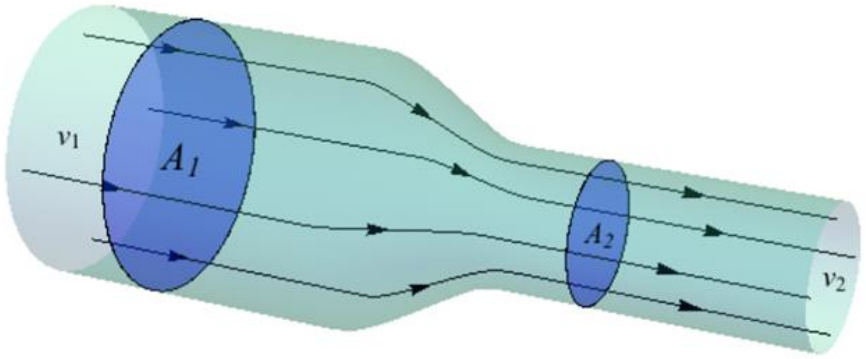
(Questions and demos will vary from teacher to teacher)

AP Physics 2

This NGSS aligned course is for highly motivated students with an interest in the physical sciences and builds on concepts covered in Physics with greater detail in content and laboratory investigations. Students explore fluid mechanics, thermodynamics, electricity and magnetism, optics, and atomic and nuclear physics. **Prerequisite:** AP Physics 1
Corequisite: Pre-Calculus

AP Physics 2:

- Fluid dynamics
- Thermodynamics
- Electrostatics & Circuits (in depth)
- Magnetism & electromagnetism
- Optics
- Atomic & nuclear physics
- Quantum physics



AP Physics 2

Demo and sample of questions asked in class

(Questions and demos will vary from teacher to teacher)

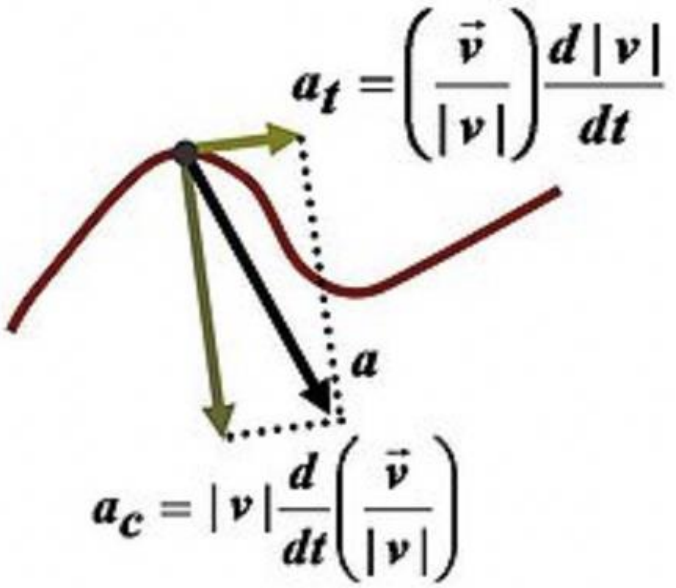
AP Physics C Mechanics and AP Physics C Electricity and Magnetism

This course is for highly motivated students with interest in the physical sciences. Students use calculus in problem solving and in derivations as they study Newtonian mechanics, electricity, and magnetism. Students are prepared to take the Advanced Placement Physics C examination. **Prerequisite:** Physics A/B and Precalculus A/B

AP Physics C Mechanics

AP Physics C Mechanics:

- Kinematics
- Dynamics
- Energy
- Momentum
- Rotation
- Gravitation and oscillation



AP Physics C Electricity & Magnetism

AP Physics C Electricity and Magnetism:

Forces on charged particles
Electric and magnetic fields
Electric circuits and their components
Nature of electromagnetic radiation

- This course applies both differential and integral calculus

Course Sequencing and Content Pacing

Varies from school to school.

Dependent on student demand.

AP Exams

Exams are in May.

One exam for each course.

College credit is dependent on AP exam score and accepting colleges' requirements.

Which Course Should You Take?

Course	Pros	Cons
Physics / Hon Physics	Survey of most physics topics	Not a college level course
AP Physics 1 and AP Physics 2	College level course, In depth understanding, Focus on scientific practices	May only have time to take the 1st class
AP Physics C – Mechanics and AP Physics C – Electricity & Magnetism	Calculus based, best for engineers	May only have time to take the 1st class

Questions?

Index Card:

please include your contact info

Online form:

Type the link in your browser or scan the QR code

bit.ly/SciNight19

For more information on enrolling your student in this course, please contact the Counselor and/or the Science Department Resource Teacher at your high school.