



"AT LEAST WITH MATH AND PHYSICS YOU  
SOMETIMES FIND THE ANSWER."

# *Physics*

**Which course is right for you?**

**Of course the question is**

**“which one”, not “whether?” 😊**

- **Bob Foley**
- **rmfoley@fcps.edu**

- **Nick Swanson**
- **nswanson@fcps.edu**

# Junior Physics Options

## Which Physics Course?

### AP Physics I

- suited for those interested in majoring in a STEM in college
- equivalent to a College Physics course
- weighted, +1
- college credit is usually given for scoring  $> 4/5$  on the AP test

### Physics I

- seen as a survey course of physics topics
- two projects: catapult and Rube Goldberg

# Junior Physics Topics

## Physics I and AP Physics 1

- Translational Kinematics
- Newtonian Mechanics
- Gravity and Planetary Motion
- Rotational Motion
- Linear Momentum and Impulse
- Work, Power, and Energy
- Oscillations and Waves
- Electrostatics
- Electrical Current and Simple Circuits
- Other topics as time permits

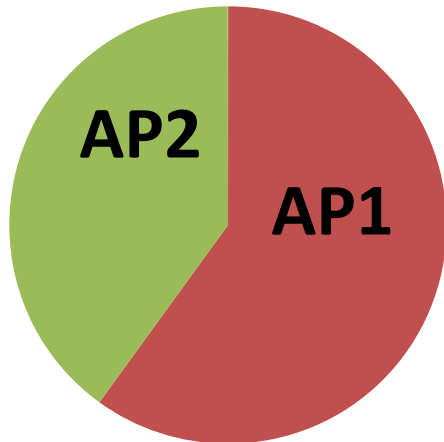
*AP topics much deeper & faster-paced than regular physics*

# Junior Physics

## Expectations

### AP Physics I

- Math corequisite of precalculus
- 5 hours of work each week
- pacing is very fast



### Physics I

- math corequisite of Algebra II
- ~ 30 min. of homework each block
- pacing is slower
- Regular Physics also does 2 projects per year:
  - Catapult &
  - Rube Goldberg

# Senior Physics Options

- ***AP Physics 2*** - overview of a wide spectrum of physics topics using algebra/trigonometry
  - Pre-calculus is the minimum pre/co-requisite
- ***AP Physics C*** - an in-depth, rigorous study of mechanics using Calculus
  - Calculus AB is the minimum pre/co-requisite
- **Both**
  - Require Physics 1 (Regular or AP) as a prerequisite
    - Recommended 11<sup>th</sup> Grade Math & Physics Grades B or Better
  - Provide the +1 weighting in FCPS GPA calculation

# AP Physics C

	Topics
Q1	Kinematics in 1 Dim
	Kinematics in 2 Dim, vectors, Projectiles
Q2	Newton's Laws of Motion
	Uniform Circular Motion
	Gravitation
Q3	Rotation
	Work, Energy, Power
	Systems of Particles, Center of Mass, Impulse, Momentum
Q4	Oscillations
	Review
	Post-Exam Projects

# AP Physics 2

#	New Topics
1	Fluids
2	Thermodynamics
3	Waves & Interference
4	Optics (Lenses, Mirrors)
5	Atomic & Nuclear Physics
6	Magnetic Fields and Forces

#	Topics continued from Physics I
7	Electrostatics
8	RC Circuits
9	Electromagnetism
10	Putting it all Together
11	Post Exam Projects

# Which Senior AP Physics Course to take?

- **AP Physics 2** – especially suited for those interested in majoring in sciences other than engineering or physics.
  - Equivalent of “College Physics” in course catalogs
  - Engineering majors will take the calculus equivalent
- **AP Physics C** – especially suited for those interested in majoring in engineering or physics in college
  - Equivalent of “University Physics” in course catalogs
- **Every year several students at Langley take both!**  
**(The topics are complimentary & highly synergistic).**