AP Physics 1

Course	Dates	Schedule	Instructor
AP Physics 1	10/26/2026 - 5/3/2027 (off: 12/21, 12/28, 2/15/2027, 2/22, 2/29)	Monday 7:00 PM - 8:30 PM	Mr. Kovalcin
Assessment Test	12/21/2026 2/15/2027 4/12/2027 4/26/2027	Monday 6:00 PM – 9:00 PM	

Course Description

#Classes	Unit	AP Physics 1
1	1	Lab Activity - Freefall /Graphics Generation

2	1	Graphical Analysis - d,v & a graphs/Develop Kinematics Equations & Problem Solving
3	2	Lab Activity - Two Dimensional Projectile Motion
4	2	Adding Vectors - Qualitative and Quantitative
5	2	Lab Activity - Centripetal Acceleration
6	3	Introduction to Newton's Laws - Lab Activity - Forces at Equilibrium
7	3	Free Body Diagrams and 1st Law Problems Solving

8	3	Static and Kinetic Friction - Lab Activity - Measuring the Force of Friction - Various Techniques
9	3	Introduction to Torque - 2nd Condition for equilibrium - Lab Activity - Torques at Equilibrium & Center of Mass

10	3	Developing Newton's 2nd Law - Lab Activity - SForces = ma
11	3	Newton's 2nd Law & Rotating Systems/Universal Gravitation/Kepler's Laws
12	4	Introduction to Work, Energy & Energy Conservation - Lab Activity - Hooke's Law & Energy Conservation

13	4	Develop problem solving involving Energy Conservation/Universal Gravitational Energy
14	5	Introduction to Momentum & its Conservation - Lab Activity - Momentum Conservation

15	5	Problem Solving - Momentum Conservation/Two Dimensional Momentum Conservation
16	6	Introduction to Rotating Systems - Lab Activity - Rotational Kinematics, Dynamics & Energy
17	6	Problem Solving Involving Rotating Systems/Introduction to Angular Momentum Conservation
18	7	Introduction to Simple Harmonic Motion (SHM) - Lab Activity - Simple Pendulum & Mass on Spring
19	7	Completing SHM - Simple Harmonic Motion - Equations and Problem Solving
20	APC - #1	AP1 Physics - Exam Practice & Review
21	APC - #2	AP1 Physics - Exam Practice & Review
22	APC - #3	AP1 Physics - Exam Practice & Review
23	APC - #4	AP1 Physics - Exam Practice & Review

24		Assessment Test
25	APC - #5	AP1 Physics - Exam Practice & Review
26		Assessment Test
27	APC - #6	AP1 Physics - Exam Practice & Review
27	APC - #7	AP1 Physics - Exam Practice & Review
		AP1 Physics Exam - Wednesday - Session 2 - Afternoon

Program Pricing

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Teacher Profile

Mr. Kovalcin

Physics



Mr. Kovalcin, a physics enthusiast, has coached many students [one of which is currently the Department of Engineering Dean at Princeton] on the US Olympiad team and has contributed to a physics textbook. He has taught classroom physics for over 41 years at various institutions, including the Monmouth County Science and Engineering Center at Manalapan High School. His extensive experience includes teaching AP Physics 1, 2, C: Mechanics, and C: Electricity and Magnetism, as well as Honors and Olympiad Physics. In addition, he has been tutoring physics online for 13 years. Additionally, he coached the Manalapan High School Physics team to first place in the National Science League. Mr. Kovalcin's classes feature engaging laboratory experiments and demonstrations, and he is known for clearly explaining difficult concepts, specifically the origins and applications of the laws of physics.

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