Danville Area School District
Course Overview and Scope and Sequence

Course Title: AP Physics C: Mechanics
Content Area: Science
Grade Level: 11-12
Date Developed: 8/11/2023

COURSE OVERVIEW: AP Physics C: Mechanics is a calculus-based, college-level physics course. It covers kinematics; Newton's laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; oscillations; and gravitation. 1. Visual Representations 2. Question and Method 3. Representing Data and Phenomena 4. Data Analysis 5. Theoretical Relationships 6. Mathematical Routines 7. Argumentation
ANCHOR STANDARDS: BIG IDEA 1: CHANGE (CHA) Interactions produce changes in motion. BIG IDEA 2: FORCE INTERACTIONS (INT) Forces characterize interactions between objects or systems. BIG IDEA 3: FIELDS (FLD) Fields predict and describe interactions. BIG IDEA 4: CONSERVATION (CON) Conservation laws constrain interactions.
KEY COURSE TEXT AND MATERIALS: College Board Materials; Teacher Created Supplemental Materials
KEY ASSESSMENTS: Quizzes, Labs, Unit Exams, Personal Progress Checks Diagnostic: None

Formative: Quizzes, Labs, Unit Exams, Personal Progress Checks
Summative: AP Physics C: Mechanics Exam

SCOPE AND SEQUENCE					
Unit	PRIORITY STANDARDS	SUPPORTING STANDARDS	ASSESSMENT	MATERIALS	TIMEFRAME
Kinematics	CHA-1 CHA-2	1.A 1.B 3.A 4.A 4.C 5.A 7.A	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	11-22 Class Periods
Newton's Laws of Motion	INT-1 INT-2 INT-3	1.A 2.D 3.B 4.B 5.A 7.A 7.B	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	12-24 Class Periods
Work, Energy, and Power	INT-4 CON-1 CON-2 CON-3	2.A 7.C 1.D 4.B 6.A 2.E 4.D	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	10-20 Class Periods

		5.C 6.C 7.E 5.D			
Systems of Particles and Linear Momentum	CHA-3 INT-5 CON-4	6.B 1.C 2.C 5.D 1.E 5.E 7.D 7.E 7.F	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	10-20 Class Periods
Rotation	INT-6 CHA-4 INT-7 CON-5	2.D 3.B 2.B 5.B 6.C 1.E 3.C 4.D 5.D 5.E 6.D 7.D	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	10-20 Class Periods
Oscillations	INT-8	1.E 2.B 2.F 4.C 4.E 5.E 7.F	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	5-10 Class Periods

Gravitation	FLD-1 CON-6	3.D 4.E 5.E 3.C 5.D 6.C 7.F	Labs; Personal Progress Check; Quizzes, Unit Exam	Supplemental Text; Teacher Created Materials; College Board Materials	5-10 Class Periods