

# CP PHYSICS SCOPE AND SEQUENCE

## Semester 1

### **Unit 1: Measurement/Kinematics (September)**

(Sig figs, distance/displacement, speed/velocity, acceleration)

### **Unit 2: Projectile Motion (September)**

(Vectors, Components, Analysis of Motion Quantities)

### **Unit 3: Force (September-October)**

(Newton's Laws, Inertia, Net Force, Friction, Incline, Coupled Motion)

### **Unit 4: Centripetal and Gravitational Motion (October-November)**

(Center-Seeking Motion, Tangential Velocity, Newton's Law of Gravitation)

### **Unit 5: Energy, Work, Power (November-December)**

(Conservation and Conversion of Energy, Work conditions, Power, Efficiency)

### **Unit 6: Momentum (December)**

(Elastic and Inelastic Momentum, Impulse, Newton's Second Law)

## Semester 2

### **Unit 7: Electrostatics (January-February)**

(Charge characteristics, field, and quantity, Force between charges, Electric Field)

### **Unit 8: Electric Current and Simple Electric Circuits (February)**

(Voltage, Current, Resistance, Ohm's Law, Circuit design and calculations)

### **Unit 9: Waves and EM Waves (February-March)**

(Mechanical and EM wave characteristics and properties, )

### **Unit 10: Nature of Light and its Wave Behavior (March-April)**

(Characteristics of Light, Reflection, Refraction, Ray Diagrams)

### **Unit 11: Nuclear Reactions (May)**

(Types of nuclear reactions and their effects, decay, applications including sun)