

AP Physics C

Instructor: Mr. Butler

Midterm Exam Outline

Multiple Choice Section: 50%

35 Questions

2 Points Each

Covers Chapters: 1 (Sections 8-11), 2 - 5

Covers the following topics:

1. Vector Properties and Operations w/Unit Vectors
2. One-Dimensional Kinematics
General Motion, Uniform Acceleration w/Free-Fall, Kinematic Functions, Velocity and Position by Integration
3. Two/Three Dimensional Kinematics: Vector Functions, Projectiles, Circular Motion, Relative Velocity
4. Newton's Laws w/Applications
Differentiation and Integration of Force Functions, Mass and Weight, Inertial/Gravitational Mass, Dynamics of Circular Motion, Apparent-Fictitious-Pseudo Forces, Inertial and Non-Inertial Frames, Friction, Fluid Resistance, Multi-Body Systems, Atwood's Machine, Forces/Motion on Inclined Planes

Free-Response Section: 50%

3 Free-Response Problems

10 Points Each

Covers the following topics:

- Problem 1 – One-Dimensional Rectilinear Kinematics w/Non-Uniform Acceleration and Application of Calculus Methods Using Differential Equations
- Problem 2 – Two-Dimensional Kinematics w/Vector Functions, Projectiles
- Problem 3 – Application of Newton's Laws w/FBD's, Friction, Circular Motion, Pseudo Forces, Multi-Body Systems