AP Physics C

Overview

This program is a set of two rigorous calculus-based physics courses for students planning on higher studies in science or engineering. The topics that students will cover in collaboration with a mentor range from Mechanics to Electricity and Magnetism, providing students with the equivalent of an introductory college level physics course for science majors. Students will work alongside their mentor to understand Electricity and Magnetism before incorporating calculus-based Mechanics, and Electricity and Magnetism into their bank of Physics knowledge. Finally, students will develop their writing and presentation skills in order to translate their critical thinking and analysis into meaningful reports.

Objectives

- Express the motion of an object using narrative, mathematical, and graphical representations
- Develop analysis of experimental data that describes the motion of an object
- Express the results of data analysis using narrative, mathematical, and graphical representations
- Apply the concepts of Conservation of Energy
- Describe a representation and use it to analyse a situation

Structure

- Reflect on current knowledge of the range of topics that Physics covers and identify strengths and weaknesses
  - Develop a personalised curriculum
- Investigating Physics-related studies and theories in the world today
  - Real-world examples
  - Ethical concerns
  - Develop critical thinking skills to problem-solve
  - Understand how physics relates to real life problems
  - Limitations of scientific endeavours
- Apply calculus in order to solve complex physics questions
- Collaboratively develop data analysis skills
  - Observation skills
  - Question reliability and validity of data to improve critical thinking
- Practice reporting primary and secondary data in the form of a report
  - Scientific writing style
  - Narrative, mathematical and graphical representations
- Exam practice
  - Past papers
  - Planning and structuring responses
  - Time management
  - Analysing and evaluating sources

20 hour
PROGRAM

Hour 0-1	Hour 1-4	Hour 4-12	Hour 12-16	Hour 16-20
Introduction & Reflection	Data Analysis Skills	Discover & Discuss Physics Studies & Theories	Report Writing/Data Representation	Hone & Master

Ascend NOW