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(EEIP Lv1) Experiment Empowered Introductory Physics

Oct 2024 Version

Goal and Motivation

This program series aims to offer students in middle school and junior years of high school an introduction to high school physics from the experimental perspective. Physics education in high school tends to have a strong focus on theory. However, students often learn physics better when it is taught with experiments. The Experiment Empowered Introductory Physics (EEIP) series is suitable for all students interested in physical science and engineering. It is suitable for students who are interested in participating in research based physics competitions like CaYPT and IYPT. EEIP Level 1 focuses on kinematics and classical mechanics.

Prerequisite

- Grade 10 or equivalent math
- No prior physics knowledge required

Textbook

Fundamentals of Physics 10th Edition by Halliday and Resnik This is one of the most renowned books for introductory physics. EEIP Level 1 will cover Chapters 1-9. Certain sections will be skipped and revisited in later levels.

Date and Time

Concept Lecture: Odd Number Weeks, Saturday 1:00 PM - 3:00 PM, in-person at SciTechnia Lab

Experiment Session: Even Number Weeks, Saturdays 1:00 PM - 3:00 PM, in-person at SciTechnia Lab

Tuition

\$1390 (16 weeks, 32 hours total) everything included.

Schedule

Week	Date	Topic	Experiment
1, 2	Oct 19, 26	Measurement	Usage of length and mass measurement instruments
3, 4	Nov 2, 9	Motion Along Straight Line	Measure size and mass distribution of glass marbles, log data in Excel
5, 6	Nov 16, 23	Vectors	Timing freefall, graphing in Excel
7, 8	Nov 30, Dec 7	Motion in 2D and 3D	Learning Tracker software
9, 10	Dec 14, 21	Force and Motion 1	Measure spring constant
11, 12	Jan 4, 11	Force and Motion 2	Measure static friction coefficient
13, 14	Jan 18, 25	Kinetic Energy and Work	Measure kinetic friction coefficient
15, 16	Feb 1, 8	Potential Energy and Conservation of Energy	Measure drag force

Registration, Contact, and Payment

Registration: Send an email to info@scitechnia.org. Please include the student name, grade.

For inquires: Please email info@scitechnia.org

Payment: e-Transfer to info@scitechnia.org.