



NORTHGATE ACADEMY

Physics: The Foundational Science - Course Syllabus

Description:

Why didn't the golf ball fly straight after it was hit? Why are race tracks inclined? How is a boat made of metal able to float? Answer these questions and more with Physics: The Foundational Science. Present the theoretical and practical aspects of physics as your child studies friction, gravity, energy, momentum, thermodynamics, and more. With over 500 illustrations, example equations, section questions, application problems, students can understand the laws of creation as God has set them into motion.

Textbook: Physics: The Foundational Science (A Beka – Code 202312)

Course objectives:

- Understand the basic concepts of Physics including: Matter, Motion, Forces, Light, Electricity, and Magnetism.
- Show understanding of material through written assignments, quizzes, and final exam.

Contents:

Semester A

Chapter 1 – Introduction to Physics
Chapter 2 – Matter
Chapter 3 – The Liquid State
Chapter 4 – The Gaseous State
Chapter 5 – The Solid State
Chapter 6 – Introduction to Motion
Chapter 7 – Vectors and Projectile Motion

Chapter 8 – Forces in Nature
Chapter 9 – Concurrent Forces
Chapter 10 – Circular and Periodic Motion
Chapter 11 – Work Mechanics
Chapter 12 – Energy and Momentum
Chapter 13 – Rotary Motion

Semester B

Chapter 14 – Heat
Chapter 15 – Laws of Thermodynamics
Chapter 16 – Waves
Chapter 17 – Sound
Chapter 18 – The Nature of Light
Chapter 19 – The Reflection of Light
Chapter 20 – The Refraction of Light

Chapter 21 – Wave Optics Chapter 28 - Relativity
Chapter 22 – Electrostatics
Chapter 23 – Magnetism
Chapter 24 – Current Generation
Chapter 25 – Electric Circuits
Chapter 26 – Electrical Devices
Chapter 27 – Advanced Physics Concepts

Grading Scale

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = under 59%

Grade Weighting

Quizzes..... 35%
Written Assignments... 35%
Final Exam..... 30%
100%