

PHZ102e Exploration in Physics

Level: 1

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

E-Learning:

Synopsis:

This is a survey course in elementary physics. Stress will be placed on basic concepts, principles, and history of the development of physics. Presentations will include selected topics in mechanics, heat, light, sound, electricity, magnetism, and modern physics. This course is designed to provide a 3-credit hour physical science course for students in academic areas of concentration other than flight or engineering. The basic goal of the course is to introduce and demonstrate the basic physics laws emphasizing the unified character of physical interactions throughout the Universe. Its purpose is to help future administrators and executives to make technically oriented decisions. The course also intends to expose students to popular articles from periodic publications to be able to read an article, emphasize basic ideas and make an independent educated judgment of its contents.

Topics:

- Physical Quantities and the Study of Motion
- Newton's Laws of Motion
- Energy and Conservation Laws
- Temperature and Heat
- Waves and Sound
- Electricity and Magnetism
- Electromagnetic Waves
- Properties of Visible Light
- Atomic Physics
- Nuclear Physics

Textbooks:

Douglas Giancoli: Physics for Science and Engineers With Modern Physics 4th Prentice Hall
ISBN-13: 9781292020761

Learning Outcome:

- Explain how the concepts of motion, forces, momentum, energy, pressure as well as weight and mass density relate to common physical situations.
- Apply the concepts and laws of motion, forces, momentum, energy, pressure as well as weight and mass density to solve physical problems.
- Explain how the concepts of temperature, heat, sound and electromagnetic waves, electricity and magnetism apply in common physical situations.
- Apply the concepts and laws of temperature, heat, sound and electromagnetic waves, electricity and magnetism to solve physical problems.
- Explain how the properties of physical light are affected by optical devices.
- Apply the laws of optics to solve problems associated with physical light.
- Explain how basic concepts of nuclear and atomic physics apply in select physical situations.
- Apply the concepts and laws of nuclear and atomic physics to solve problem
- Interpret the results of physics experiments and demonstrations of physical principles.

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	QUIZ 1	6
	QUIZ 2	12
	QUIZ 3	12
Overall Examinable Components	Written Exam	70
Total		100