COURSE OUTLINE: PHY115 - CONCEPTS OF PHYSICS

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Course Code: Title	PHY115: CONCEPTS OF PHYSICS
Program Number: Name	
Department:	MATHEMATICS
Academic Year:	2024-2025
Course Description:	This course provides students with an introduction to many of the concepts of applied physics. It involves lectures, class demonstrations and laboratory work. Topics covered include safe lab practices, units of measurements, forces, accelerated motion, Newton`s laws of motion, work energy and power, simple machines , properties of solids, liquids and gases, temperature, heat and heat transfer, basic electricity and magnetism.
Total Credits:	5
Hours/Week:	5
Total Hours:	75
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 10 Manage the use of time and other resources to complete projects.
General Education Themes:	Science and Technology
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Books and Required Resources:	Conceptual Physics - Mastering Physics access code (modified) by Paul G. Hewitt Publisher: Pearson Edition: 13th ISBN: 9780135745847 etext: 9780135746356

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Measurement and the Metric System	1.1 Describe and define base units of measure 1.2 Convert units of measure within the various systems of measure
Course Outcome 2	**Learning Objectives for Course Outcome 2**

2. Motion	2.1 Describe and define distance, speed, velocity, and acceleration 2.2 Work with equations describing free fall and projectile motion
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Forces, Work, Energy, Power and Simple Machines	3.1 Awareness and quantification of various types of forces and quantify units of Work, Energy and Power 3.2 Define, describe and quantify mechanisms and forces of Simple Machines
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Properties of Matter: Solids, Liquids and Gases	4.1 Awareness of the various physical properties of matter in liquid, solid and gaseous states
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Temperature and Heat	5.1 Define and describe heat 5.2 Awareness of the various temperature scales
Course Outcome 6	**Learning Objectives for Course Outcome 6**
6. Basic Electricity and Magnetism	6.1 Understand and quantify the various attributes of electricity 6.2 Differentiate between alternating and direct current 6.3 Differentiate between series and parallel circuits 6.4 Describe the characteristics of Magnetism

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Labs and Assignments	45%
Quizzes	10%
Tests	45%

Date: December 9, 2024

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.