COURSE OUTLINE: PHY115 - CONCEPTS OF PHYSICS

Prepared: Matt Moore
Approved: Bob Chapman, Chair, Health

Course Code: Title	PHY115: CONCEPTS OF PHYSICS
Program Number: Name	
Department:	MATHEMATICS
Semesters/Terms:	21W
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:	Coneptual Physics - Mastering Physics access code (modified) by Paul G. Hewitt Publisher: Pearson Edition: 12th ISBN: 9780321940667

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

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.

	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 22, 2020

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

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2020-2021 academic year.