COURSE OUTLINE: PHY117 - CONCEPTS OF PHYSICS

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Course Code: Title	PHY117: CONCEPTS OF TECHNICAL PHYSICS
Program Number: Name	4005: PRE-TRADES TECHNOLGY
Department:	PRE-TRADES & TECHNOLOGY
Academic Year:	2024-2025
Course Description:	This course introduces the student to a number of fundamental concepts of technical physics. It is designed to satisfy the needs of students who are interested in an overview of the concepts rather than a rigorous mathematical analysis of the topics as might be encountered in a traditional engineering level course in physics. The included topics relate to the trades and technology fields of study.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Substitutes:	PHY100, PHY115
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**4005 - PRE-TRADES TECHNOLGY** VLO 1 Function at a level of mathematics suited to the student's post-secondary program aspirations. VLO 2 Develop basic science knowledge compatible with future study in a post-secondary technology program. VLO 3 Enhance reading and writing skills to college entry standards. VLO 4 Develop effective learning and study skills. VLO 5 Develop effective career planning skills. VLO 6 Become familiar with the college study requirements. VLO 9 Work with others
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 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. EES 10 Manage the use of time and other resources to complete projects.
Course Evaluation:	Passing Grade: 50%, D

	A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Other Course Evaluation & Assessment Requirements:	Grade Definition Grade Point Equivalent A+ 90 - 100% 4.00 A 80 - 89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50 - 59% 1.00 F (Fail) 49% and below 0.00 CR (Credit) Credit for diploma requirements has been awarded. S Satisfactory achievement in field /clinical placement or non-graded subject area. U Unsatisfactory achievement in field/clinical placement or non-graded subject area. X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. NR Grade not reported to Registrar`s office. W Student has withdrawn from the course without academic penalty. Smart watches, smart phones and similar devices are not allowed during tests or quizzes and must be removed. Smart phones are not acceptable for use as a calculator during a test or quiz.
Books and Required Resources:	Scientific Calculator, similar to Sharp EL520W
Course Outcomes and Learning Objectives:	

Course Outcome 1	**Learning Objectives for Course Outcome 1**
1. Measurement and The Metric System	1.1 differentiate between accuracy and precision 1.2 be aware of various measuring systems such as: Metric, Imperial, and U.S. Customary
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Motion	2.1 differentiate between distance and displacement 2.2 understand speed, velocity, and acceleration
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Forces, Work, Energy, Power and Simple Machines	3.1 identify forces in nature e.g. gravity, magnetism 3.2 define and describe the units associated with work, energy, power and how forces are used by simple machines
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Properties of Matter: Solids, Liquids and Gases	4.1 identify the characteristics of mater in various states 4.2 describe the cause(s) of matter to undergo a change of state 4.3 quantify the units of measure which are associated with change of state e.g. temperature and/or heat
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Basic Electricity	5.1 identify the components of electricity: volt, amperage, and resistance 5.2 be aware of fundamental differences between AC and DC

		current 5.3 configure parallel and serial circuits
	Course Outcome 6	**Learning Objectives for Course Outcome 6**
	6. Temperature and Heat	6.1 be aware of centigrade, Celsius and Kelvin temperature scales 6.2 be able to convert temperatures between all three scales 6.3 differentiate between temperature and heat

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Labs/Assignments	40%
Theory Tests/Quizzes	60%

Date: August 18, 2024

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