COURSE OUTLINE: MTH163 - PRE-TRADE/TECH MATH2

Prepared: Mathematics Department
Approved: Karen Hudson, Dean, Community Services and Interdisciplinary Studies

Course Code: Title	MTH163: PRE-TRADES/TECHNOLOGY MATHEMATICS 2
Program Number: Name	4005: PRE-TRADES TECHNOLGY
Department:	MATHEMATICS
Academic Year:	2024-2025
Course Description:	This course is a continuation of MTH162-3 for Pre-trades and Technology students. Topics of study include: quadratic, exponential and logarithmic equations, geometry, and trigonometric functions. A treatment of trigonometry of right and oblique triangles with applications is included. This course also includes an introduction to statistics.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	MTH162
Corequisites:	There are no co-requisites for this course.
Substitutes:	MTH161
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 4 Develop effective learning and study skills.
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.
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:	Calculator - Sharp EL-520XTB (Available in Bookstore) Only FREE Open Educational Resources will be used for this Course/Section. Access information will be supplied by the instructor.

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1. Solve quadratic equations by factoring, using quadratic formula, and graphically.	1.1 Reviewing the quadratic equation. 1.2 Solving quadratic equations by factoring. 1.3 Solving quadratic equations by completing the square. 1.4 Solving quadratic equations by using the quadratic formula. 1.5 Graphing the quadratic functions using the key points.
Course Outcome 2	**Learning Objectives for Course Outcome 2**
2. Solve exponential and logarithmic equations.	2.1 Recognize an exponential equation. 2.2 Identify the base in an exponential equation. 2.3 Evaluate and graph exponential functions. 2.4 Review logarithms and natural logarithms. 2.5 Solve exponential and logarithmic equations.
Course Outcome 3	**Learning Objectives for Course Outcome 3**
3. Solve problems involving perimeter, area, volume, surface area, for simple composite shapes and figures.	3.1 Discuss basic two- and three-dimensional shapes. 3.2 Review the rules on area, perimeter, volume, surface area for simple composite shapes and figures. 3.3 Solve for perimeter, area, volume, and surface area for the various composite shapes and figures. 3.4 Introduce geometry and right-angle triangle trigonometry.
Course Outcome 4	**Learning Objectives for Course Outcome 4**
4. Solve problems using primary trigonometric ratios, the sine law, and the cosine law.	4.1 Evaluate angles and their measure. 4.2 Evaluate other geometric figures. 4.3 Solve for right angle applications and use the Pythagorean Theorem. 4.4 Discuss similar triangles and the trigonometric ratios. 4.5 Determine the values and applications of trigonometric ratios. 4.6 Review the law of sines and the law of cosines. 4.7 Introduce vectors, vector components, vector addition with components and their application.
Course Outcome 5	**Learning Objectives for Course Outcome 5**
5. Interpret, analyze and summarize two variable data graphically and numerically using a variety of tools and strategies.	5.1 Introduction to data analysis. 5.2 Create various representations of data graphically. 5.3 Measure central tendencies (mean, median, and mode), spread and variation. 5.4 Introduce probability and its applications.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments/Quizzes/Attendance	30%
Tests	70%

Date: October 4, 2024

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