MATH A093: SUPPORT FOR FOUNDATIONS FOR CALCULUS 1

Item	Value
Curriculum Committee Approval Date	12/04/2024
Top Code	170200 - Mathematics Skills
Units	2 Total Units
Hours	36 Total Hours (Lecture Hours 36)
Total Outside of Class Hours	0
Course Credit Status	Credit: Support Course - Non-Degree Applicable (S)
Material Fee	No
Basic Skills	Basic Skills (B)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Pass/No Pass (B)

Course Description

This course will help students build various foundational skills required in Math A135. These skills related to factoring, graphing, solving equations, evaluating functions, and unit circle trigonometry. COREQUISITE: MATH A135. Not Transferable.

Course Level Student Learning Outcome(s)

1. Students will be able to demonstrate improvement in foundational skills required for Calculus 1 including factoring, graphing, solving equations, evaluating functions, and unit circle trigonometry.

Course Objectives

- 1. Build skill related to factoring
- 2. Build skill related to graphing
- 3. Build skill related to linear equations
- 4. Build skill related to function evaluation
- 5. Build skill related to solving equations
- 6. Build skill related to trigonometry

Lecture Content

Brief Review of Algebra Simple equations Algebraic expressions Linear and absolute value Inequalities Lines Find the slope and distance between two points Sketch Linear Equations Functions Definition of a function Domain and range Evaluation of functions Polynomials and Factoring Common Factor, trinomials, difference of squares, the sum and difference of cubes Rational Expressions Intro to Operations with Algebraic Fractions Simplifying Addition and Subtraction Multiplication and Division Simplifying Basic Complex Fractions Graph the Reciprocal Function, y=1/x Radicals and Rational Exponents Define radicals and introduce operations on radical expressions Rational exponents and converting between radicals and rational exponents Unit Circle Trigonometry Pythagorean Theorem Define Radians and Degrees Define Reference Angle Special Right Triangles

Method(s) of Instruction

- Lecture (02)

Instructional Techniques

Lecture, discussion, collaborative learning

Reading Assignments

Students will spend approximately 1 hour per week reading from the assigned text.

Writing Assignments

Students will spend approximately 1 hour per week on writing assignments. Short-answer questions. Essay questions. Group and/or individual projects.

Out-of-class Assignments

Students will spend approximately 2 hours per week on out-of-class assignments including readingand written homework involving problem-solving exercises. Practice problem sets requiring application of course material Preparation assignments that require students to answer specific questions that will be discussed in an upcoming class meeting.

Demonstration of Critical Thinking

Group work, quizzes, written tests or comprehensive final exam, and application of skills in support ofCollege Algebra.

Required Writing, Problem Solving, Skills Demonstration

Group work, quizzes, written tests, or comprehensive final exam.

Eligible Disciplines

Mathematics: Master's degree in mathematics or applied mathematics OR bachelor's degree in either of the above AND master's degree in statistics, physics, or mathematics education OR the equivalent. Master's degree required.

Textbooks Resources

1. Required Sullivan, M. Algebra and Trigonometry, 12 ed. Pearson, 2024