MATH A062N: MATH SKILLS FOR TRIGONOMETRY

Item	Value
Curriculum Committee Approval Date	12/04/2024
Top Code	170200 - Mathematics Skills
Units	0 Total Units
Hours	54 Total Hours (Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Noncredit: Support Course (U)
Material Fee	No
Basic Skills	Basic Skills (B)
Repeatable	Yes; Repeat Limit 99
Open Entry/Open Exit	Yes
Grading Policy	P/NP/SP Non-Credit (D)

Course Description

This noncredit course will help students build various skills required in their Trigonometry course. These skills include factoring, solving equations, manipulating rational expressions, laws of exponents, and graphing. Students enrolled in this class should be concurrently enrolled in a transfer-level math class 100 level or higher. NOT DEGREE APPLICABLE. Not Transferable.

Course Level Student Learning Outcome(s)

1. Students will be able to demonstrate improvement in skills required for Trigonometry including factoring, solving, manipulating rational expressions, laws of exponents, and graphing.

Course Objectives

- 1. Build skills related to operations with real numbers
- 2. Build skills related to graphs and functions
- 3. Build skills related to polynomials and solving quadratic equations
- 4. Build skills related to rational expressions
- 5. Build skills related to geometry

Lecture Content

See lab content

Lab Content

Students will build skills in the following areas as needed: Operations with real numbers Addition, subtraction, multiplication, division of real numbers Order of operation Simplification of radicals Properties of Exponents (including trig functions) Algebraic operations with radicals Rationalizing the denominator Operations with fraction including ? Unit conversions, including rates Calculator usage: rounding and evaluating expressions Graphs, relations, and functions Relations and functions Domain and range Function notation Composition of functions Inverse functions Transformations Polynomials (including trig functions) Operations with polynomials: addition, subtraction, multiplication, and division (dividing by a monomial only) Factor quadratics Solve quadratic equations using the square root property, factoring and applying the quadratic formula Rational expressions (including trig functions) Operations and simplification rational expressions Solve equations involving simple rational expressions Simplify complex fractions Geometry Types of angles Complementary, supplementary, and vertical angles Pythagorean Theorem Special right triangles Proportions from similar triangles Parts of circles (radius, diameter, arc length, circumference, sectors) Equations of circles Areas of triangles, circles and parallelograms. Properties of parallelograms Parallel lines intersected by a transversal

Method(s) of Instruction

- Enhanced NC Lab (NC2)

Instructional Techniques

DiscussionCollaborative LearningGuided Independent Study

Reading Assignments

N/A

Writing Assignments

Students will peform written work during lab hours

Out-of-class Assignments

N/A

Demonstration of Critical Thinking

Applications of skills to problem solving exercises

Required Writing, Problem Solving, Skills Demonstration

Problem solving exercises

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 Miller, J. Beginning and Intermediate Algebra, 6th ed. McGraw Hill, 2022