MATH A061N: MATH SKILLS FOR COLLEGE ALGEBRA

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 College Algebra course. These skills include factoring, solving equations, manipulating rational expressions, laws of exponents, and logarithms. 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 College Algebra including factoring, solving, manipulating rational expressions, laws of exponents, and logarithms.

Course Objectives

- 1. Build skills related to operations with real numbers
- 2. Build skills related to linear equations
- 3. Build skills related to polynomials
- 4. Build skills related to quadratic equations
- 5. Build skills related to functions
- 6. Build skills related to rational expressions
- 7. Build skills related to radical expressions
- 8. Build skills related to exponential and logarithmic functions

Lecture Content

See lab content

Lab Content

Students will build skills in the following areas as needed: Operations with real numbers Addition, subtraction, multiplication, and division of real numbers Order of operations Rule of Exponents Linear Equations and Inequalities Solve linear equations Graph linear equations Solve linear inequalities Solve system of equations Solve system of inequalities Introduction to polynomials Addition, subtraction, multiplication, and division with polynomials Factoring polynomials Quadratic Equations Solve quadratic equations (by factoring or by square root method) Graph quadratic equations Introduction to functions Function notation and evaluation Domain and range of a function given graphically and algebraically Algebra of functions: addition, subtraction, multiplication, division, and composition Operations with rational expressions Addition, subtraction, multiplication, and division with rational expressions. Simplify complex fractions Operations with radical expressions Simplify radical expressions Addition, subtraction, multiplication, and division with radical expressions Rationalize the denominator Exponential and logarithmic functions Introduction to exponential and logarithmic functions Properties of exponential and logarithmic functions Solving equations involving exponential and logarithmic terms

Method(s) of Instruction

- Enhanced NC Lab (NC2)

Instructional Techniques

Discussion Collaborative Learning Guided Independent Study

Reading Assignments

N/A

Writing Assignments

Students will complete 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