MATH A092: SUPPORT FOR TRIGONOMETRY

Item	Value
Curriculum Committee Approval Date	09/07/2022
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
Grading Policy	Pass/No Pass (B)

Course Description

A concurrent support course designed to review prerequisite topics necessary for success in MATH A120, Trigonometry, covering operations with real numbers, relations and functions, systems of linear equations, factoring, rational expressions, quadratic equations, conic sections, and basic geometry. COREQUISITE: MATH A120. NOT DEGREE APPLICABLE. Not Transferable.

Course Level Student Learning Outcome(s)

1. Factor a Trinomial with a leading coefficient other than 1.
2. Use proportions to set up and solve equations based on similar triangles.

Course Objectives

- 1. Address the affective side of learning in order to provide students with the skills necessary to be successful in a transfer level math course.
- 2. Understand and use relations and functions to graph, state domain and range, and perform operations.
- 3. Factor and perform operations on polynomials.
- 4. Solve quadratic equations.
- 5. Perform rational expression operations and solve equations involving rational expressions.
- 6. Graph circles
- 7. Understand and use proportions, area formulas, and the Pythagorean Theorem to solve problems in geometry.

Lecture Content

Learning skills Study skills Time management Math anxiety Test taking skills Operations with real numbers Simplification of radicals Properties of Exponents Algebraic operations with radicals Rationalizing the denominator Graphs, relations, and functions Relations and functions Domain and range Function notation Composition of functions Inverse functions Transformations Polynomials Operations with polynomials: Addition, subtraction, multiplication, and division Factor quadratics Solve quadratic equations by factoring and the quadratic formula Rational expressions Combine and simplify rational expressions Solve equations involving rational expressions Simplify complex fractions Geometry Pythagorean Theorem Proportions from similar triangles and parts of circles. Equations of circles Areas of triangles, circles and parallelograms. Properties of parallelograms Parallel lines intersected by a transversal

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- Self-Paced (SP)

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.

Out-of-class Assignments

Students will spend approximately 2 hours per week on out-of-class assignments including reading and written homework involving problem-solving exercises.

Demonstration of Critical Thinking

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

Required Writing, Problem Solving, Skills Demonstration

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

Eligible Disciplines

Mathematics: Masters degree in mathematics or applied mathematics OR bachelors degree in either of the above AND masters degree in statistics, physics, or mathematics education OR the equivalent. Masters degree required.

Textbooks Resources

1. Required Lial, Margaret. Trigonometry, 12th ed. Pearson, 2020

Other Resources

1. Other appropriate textbook as chosen by fulltime faculty 2. Instructors may choose to use a software such as MML, ALEKS or Webassign