MATH A094: SUPPORT FOR BUSINESS CALCULUS

Item	Value
Curriculum Committee Approval Date	12/06/2023
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	Yes
Grading Policy	Pass/No Pass (B)

Course Description

A concurrent support course designed to review topics necessary in Math A140 Business Calculus, including operations with expressions, relations and functions, factoring, rational expressions, quadratic equations, logarithmic and exponential expressions and equations, and basic geometry. COREQUISITE: MATH A140. NOT DEGREE APPLICABLE. Not Transferable.

Course Level Student Learning Outcome(s)

1. Students will be able to find the equation of a line given the slope and a point on the line.

Course Objectives

- 1. Improve study skills and understand metacognitive learning
- 2. Find properties, graph, and write the equation of a line
- 3. Simplify and manipulate expressions
- 4. Solve equations
- 5. Evaluate and graph functions
- 6. Manipulate polynomial, exponential, and logarithmic functions
- 7. Use geometry to find areas
- 8. Reinforce business calculus concepts such as practicing derivative and integrals

Lecture Content

Strategies for Success Find Properties, Graph, and Write the Equation of a Line Find the slope and intercepts of a line Write the equation of a line in slope-intercept form given the slope and a point or given two points Graph a line given its equation Simplify and Manipulate Expressions Perform operations on polynomials including dividing a polynomial by a monomial Factor expressions including rational exponents Simplify and perform operations on rational and complex fractions Solve Equations Solve linear, quadratic, and cubic equations Solve equations with rational exponents using factoring Solve rational equations Functions Evaluate functions using function notation and simplify the difference quotient Graph functions including quadratic, cubic, squre root, cube root, rational, absolute value, and piece-wise defined. Find the domain and range of a function given is equation or its grpah using set-builder notation and interval notation. Manipulate Exponentioal and Logarithmic Functions Use exponent rules for rational and integer exponents Graph and evaluate exponential functions Graph and evaluate logarithmic functions Use logarithmic properties to rewrite expressions Solve exponential and logarithmic equations Evaluate and solve compound interest problems Area Find the area of rectangles, triangles, and circles Find the area formed by two or more shapes using addition and subtraction Support for Business Calculus in areas such as Limits Differentiation and integrations Rates of change and tangent lines Opotimization Curve sketching Applications</ li>

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.

Out-of-class Assignments

Students will spend approximately 2 hours per week on out-of-class assignments including problem solving exercises.

Demonstration of Critical Thinking

Group work, quizzes, and application of skills in support of Business Calculus

Required Writing, Problem Solving, Skills Demonstration

Group work, assignments and/or quizzes

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 Bittinger, M., Ellenbogen, D. Calculus and Its Applications, 12th ed. Pearson, 2020

Other Resources

1. Other appropriate textbook or resources as chosen by full-time faculty.