MATH 080: COREQUISITE SUPPORT FOR CALCULUS FOR BUSINESS AND SOCIAL SCIENCES

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2024
Credits:	2
Total Contact Hours:	36
Lecture Hours :	36
Lab Hours:	0
Hours Arranged:	0
Outside of Class Hours:	72
Total Student Learning Hours:	108
Prerequisite:	Direct placement based on multiple measures.
Corequisite:	MATH 180.
Transferable to CSU:	No
Transferable to UC:	No
Grading Method:	Pass/No Pass

Catalog Course Description

This course is designed for those students who are concurrently enrolled in MATH 180 at Citrus College. The course will help students review their problem solving skills for linear and piecewise-defined functions and nonlinear equations and functions such as quadratic, rational, radical, exponential and logarithmic. Other review topics include: solving and graphing linear, piecewise-defined, quadratic, exponential and logarithmic functions, solving and graphing inequalities in one and two variables, solving and graphing linear systems of equations in two variables, factoring polynomials and complex rational expressions and algebraic operations on simplifying complex rational expressions. A scientific calculator is required for this course. Non-degree applicable. 36 lecture hours.

Course Objectives

- 1) Reorganize expressions by:\\na. Applying properties of integer and rational exponents\\nb. Expanding the product of polynomials \\nc. Factoring out the greatest common factor from polynomial expressions\\nd. Factoring out the greatest common factor from rational expressions and simplifying the result\\ne. Performing arithmetic operations on polynomials\\n2) Solve:\\na. Linear equations and functions\\nb. Linear inequalities\\nc. Piecewise-defined functions\\nd. Quadratic equations and functions\\ne. Rational equations and functions\\nf. Radical equations and functions\\ng. Systems of Linear equations with two variables \ \n3) Graph:\\na. Linear equations and functions in two variables\ \nb. Linear inequalities in one variable\\n4) Form linear equations to represent relationships from:\\na. Two points\\nb. Slope and a point \\nc. A graph of a line and/or\\nd. An application problem\\n5) Solve and interpret the solutions of application problems\\n6) Inspect and analyze a graph in order to:\\na. Determine if it represents a function \\nb. Evaluate the function\\nc. Determine the domain and range of a function using interval notation\\n

Major Course Content

1. Use properties of real numbers, order of operations, absolute value, exponent rules and integer and rational exponents
2. Use interval notation when stating the domain and range of a function
3. Work with linear relationships including the formulation, graphing, analyzing and solving of linear equations, linear inequalities and two variable systems of linear equations and inequalities
4. Use arithmetic operations and factoring techniques to reorganize algebraic expressions and equations including using product formulas such as the difference of squares and the sum and difference of cubes
5. Perform basic operations on rational expressions, simplify complex rational expressions by factoring out the greatest common factor and rationalize the denominator or numerator of rational expressions
6. Solve piecewise-defined, quadratic, rational, radical, exponential and logarithmic functions
7. Graph linear, piecewise-defined, quadratic, rational, radical, exponential and logarithmic functions on the Cartesian Coordinate System.
8. Compute the equation of a circle
9. Compute the distance between two points on a graph
10. Use various problem-solving strategies to analyze problems and to formulate and carry out appropriate solution strategies for application problems

Suggested Reading Other Than Required Textbook

Students will be provided with reading assignments on topics such as growth mindset to help students overcome self-sabotaging behaviors, such as missing class, not doing homework, and non-participation in classroom activities.

Examples of Required Writing Assignments

Students will expect to write short self-reflection to help them develop analytical, critical thinking skills that allow them to take charge of their learning to acquire better solving skills to math problems.

Examples of Outside Assignments

Students would research how the concept of instantaneous rate of change can be found in the real world, and bring examples to class for group discussions.

Instruction Type(s)

Lecture, Online Education Lecture