



## COURSE SYLLABUS

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**COURSE:** MAT 171 PRECALCULUS ALGEBRA

**HOURS:** Lecture: 3 Lab/Shop: 2 Work Exp/Clinical: 0 Credits: 4

### COURSE DESCRIPTION:

This course is designed to develop topics which are fundamental to the study of Calculus. Emphasis is placed on solving equations and inequalities, solving systems of equations and inequalities, and analysis of functions (absolute value, radical, polynomial, rational, exponential, and logarithmic) in multiple representations. Upon completion, students should be able to select and use appropriate models and techniques for finding solutions to algebra-related problems with and without technology.

*Note: In accordance with the Comprehensive Articulation Agreement, this course has been approved to satisfy the Universal General Education Transfer Component requirement for mathematics in A.A. and A.S. degree programs. This course has been approved to meet the mathematics requirement in A.A.S. degree programs.*

**PREREQUISITE(S):** DMA 010-080 or MAT 003 Tier 3 or BSP 4003 Tier 3 or MAT 071

**COREQUISITE(S):** None

### TEXTBOOK(S) & OTHER SPECIAL REQUIREMENTS:

Open Educational Resources (OER) are listed in the course Moodle.

### STUDENT LEARNING OUTCOMES:

Upon successful completion of this course, the student will be able to:

1. Use analytical, graphical, and numerical representations to solve absolute value, radical, polynomial, rational exponential, and logarithmic equations with both real and complex solutions.
2. Use analytical, graphical, and numerical representations to solve absolute value, polynomial and rational inequalities with real solutions.
3. Use analytical, graphical, and numerical representations to analyze absolute value, radical, polynomial, rational, exponential and logarithmic functions with both real and complex zeros.
4. Use multiple methods to solve problems involving systems of equations and apply decomposing partial fractions.
5. Construct the composition and inverse of functions.
6. Use polynomial, exponential and logarithmic functions to model various real world situations in order to analyze, draw conclusions, and make predictions.

**\*\*\*Please refer to the online version of the Richmond Community College Program & Course Catalog and the Student Handbook for current academic and general information.**