

MATH 105 College Algebra

Course objectives:

- Prepare students to take courses that depend on the material in a typical college algebra course.
- Develop problem solving skills.
- Use technology as an aid to solving algebra problems.
- Generate and analyze mathematical models.

Usual course content:

Unit 1: Functions and Their Graphs

Graphs of equations, lines in the plane, functions, graphs of functions, shifting, reflecting and stretching graphs, combinations of functions, inverse functions.

Unit 2: Solving Equations and Inequalities

Linear equations and problem solving, solving equations graphically, complex numbers, solving quadratic and other types of equations algebraically, solving inequalities algebraically and graphically.

Unit 3: Polynomial and Rational Functions

Quadratic functions, polynomials of higher degree, real zeros of polynomial functions, rational functions and asymptotes, graphs of rational functions.

Unit 4: Exponential and Logarithmic Functions

Exponential functions and their graphs, logarithmic functions and their graphs, properties of logarithms, solving exponential and logarithmic equations, applications of exponential and logarithmic functions.

Unit 5: Linear Systems

Solving systems of equations, systems of linear equations in two variables.

Unit 6: Sequences and Series

Introduction to sequences and series, geometric sequences and series

Technology:

Students will be using graphing calculators.

Students who may benefit:

Students who need preparation for calculus or students in programs that require College Algebra.

Follow up courses:

MATH 112 or Math 120; may be taken concurrently with MATH 107