

Course Code: MAT 124

Course Title: College Algebra

Department: Mathematics

Effective Date: Summer 2026

PCS Code: 1.1 - Baccalaureate/Transfer

CIP Code: 27.0101

Repeatability: 0

Credit Hours

Catalog Notation: 4-0-4

Credit Hour Distribution:

Lecture: 4

Lab: 0

Clinical: 0

Total: 4

General Course Information

Catalog Description

Relations and functions; linear, polynomial, exponential, and logarithmic models; radicals; graphing techniques; systems of equations and matrix methods.

General Course Objectives

Students will learn the algebraic concepts of precalculus and will prepare for MAT 125, MAT 141, MAT 143, or MAT 160. Graphing calculator usage is integrated throughout the course.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Credit in MAT 098 with a grade of C or higher, or placement

Methods of Evaluation

4-5 exams, 6-12 quizzes, homework, and a cumulative final exam.

Instructional Materials and Additional Supplies

Precalculus, Functions and Graphs, 13th Edition, by Swokowski and Cole; Cengage Learning, 2019.
9781337552332

Required: TI-83/TI-84 Plus graphing calculator; \$85-\$120.

Course Content

General Learning Outcomes (GLOs)

- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Manipulation of Algebraic Expressions Commonly Found in a Calculus Course	<ol style="list-style-type: none"> Factor algebraic expressions. Find products and quotients of polynomials. Add, subtract, multiply, divide, and reduce rational expressions. Use integer exponents, radicals, and rational exponents. 	5	0	0
Polynomial, Radical, and Absolute Value Equations and Inequalities	<ol style="list-style-type: none"> Solve polynomial, rational, and absolute value equations and inequalities. Perform operations with complex numbers. 	5	0	0
Functions, Function Operations, and Graphs	<ol style="list-style-type: none"> Demonstrate knowledge of the meaning of domain, range, relation, and function. Add, subtract, multiply, divide, and compose functions. Find difference quotients. Apply graphical transformations. Graph and analyze relations and functions, including circles and piecewise-defined functions. 	10	0	0
Linear Functions, Their Properties, and Graphs; Applications of Linear Functions; Linear Modeling	<ol style="list-style-type: none"> Construct, graph, and analyze linear functions. Use linear models in a variety of applications. 	2	0	0
Polynomial and Rational Functions, Their Properties, and Graphs; Applications	<ol style="list-style-type: none"> Construct, graph, and analyze polynomial and rational functions. Demonstrate synthetic division. Apply rational roots theorem. Use such models in a variety of applications. 	9	0	0
Inverse Functions; Exponential and Logarithmic Functions; Properties of Logarithms and Applications	<ol style="list-style-type: none"> Demonstrate knowledge of the meaning of and how to find the inverse of a function. Demonstrate knowledge of the properties of the exponential and logarithmic functions. Solve exponential and logarithmic equations. Analyze and solve applied problems. 	14	0	0
Systems of Linear and Non-linear Equations; Systems of Inequalities; Matrices and Solving Systems of Equations by Matrix Methods	<ol style="list-style-type: none"> Solve systems of linear and non-linear equations and inequalities using substitution, elimination, and graphical techniques. Use the matrix method of row reduction. 	6	0	0
Review and Tests	<ol style="list-style-type: none"> Earn at least a 70 percent on each exam, including the cumulative final exam. 	9	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
60	0	0