

# Math 0303/College Preparatory Course

Developed in collaboration between Amarillo College and Amarillo ISD

## Student Learning Outcomes

1. Define, represent, and perform operations on real and complex numbers.
2. Recognize, understand, and analyze features of a function
3. Recognize and use algebraic (field) properties, concepts, procedures (including factoring), and algorithms to combine, transform, and evaluate absolute value, polynomial, radical, and rational expressions.
4. Identify and solve absolute value, polynomial, radical, and rational equations.
5. Identify and solve absolute value linear inequalities.
6. Model, interpret, and justify mathematical ideas and concepts using multiple representations.
7. Connect and use multiple strands of mathematics in situations and problems, as well as in the study of other disciplines.

## Grading Criteria

Six-weeks Grades:

Homework	12%
Daily Quizzes	12%
Topic Tests	24%
Unit Test	52%

Semester Test 15%

**Students must earn a 70% or higher to pass MATH 0303 and thereby meet college readiness requirements as specified by TEC 28.014.**

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## **Unit 1: Equations, Inequalities, and Problem Solving**

6 weeks: August 25-October 3

1. Linear Equations in One Variable
2. Linear Inequalities and Problem Solving
3. Compound Inequalities
4. Absolute Value Equations
5. Absolute Value Inequalities

## **Unit 2: Graphs and Functions**

5 weeks: October 6-November 7

1. Graphing Equations
2. Introduction to Functions
3. The Slope of a Line
4. Equations of Lines

## **Unit 3: Exponents, Polynomials, and Polynomial Functions**

6 weeks: November 10-December 19

1. Exponents
2. Polynomials and Polynomial Functions
3. Multiplying Polynomials
4. The Greatest Common Factor and Factoring by Grouping
5. Factoring Trinomials
6. Factoring by Special Products
7. Solving Equations by Factoring

## **Unit 4: Rational Expressions**

6 weeks: January 5-February 13

1. Rational Functions
2. Multiplying and Dividing Rational Expressions
3. Adding and Subtracting Rational Expressions
4. Solving Equations Containing Rational Expressions

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### **Unit 5: Rational Exponents, Radicals, and Complex Numbers**

7 weeks: February 16-April 10

1. Radicals and Radical Functions
2. Rational Exponents
3. Simplifying Radical Expressions
4. Adding, Subtracting, and Multiplying Radical Expressions
5. Rationalizing Denominators of Radical Expressions
6. Radical Equations
7. Complex Numbers

### **Unit 6: Quadratic Equations and Functions**

7 weeks: April 13-May 29

1. Solving Quadratic Equations by the Square Root Property
2. Solving Quadratic Equations by Completing the Square
3. Solving Quadratic Equations by the Quadratic Formula
4. Using the Discriminant to Determine the Number and Types of Solutions of a Quadratic Equation
5. Quadratic Functions and Their Graphs