

First Year Algebra 2

MTHH032061

Credits: 0.5 units / 5 hours | NCAA Approved

Course Description

In the second semester of this Algebra series, students will become familiar with systems of equations and inequalities, exponents and their functions, factoring, polynomials, radical expressions and equations, quadratic equations and functions, rational expressions and functions, data analysis, combinations and permutations. Students may need to use the equation editor feature in their word processing to complete the projects for electronic submission. Please be aware that students are responsible for learning to use these tools and for completing all parts of the projects prior to submission. A scientific calculator is required for this course.

Graded Assessments

6 Unit Evaluations, 2 Projects, 3 Proctored Progress Tests, 6 Teacher Connect Activities

Course Objectives

When you have completed the materials in this course, you should be able to:

1. Solve systems of equations by graphing, substitution, or elimination.
2. Multiply and divide exponents and know their properties.
3. Graph exponential functions and determine rates of growth or decay.
4. Add, subtract, multiply, and divide with polynomials.
5. Factor all types of polynomials.
6. Solve and graph quadratic equations.
7. Differentiate between linear, quadratic, and exponential functions.
8. Simplify and solve radical equations.
9. Use the operations for rational expressions.
10. Determine the difference between a combination and a permutation.

Course Outline

Unit 1: Foundations of Algebra

Lesson 1: Exponents

Lesson 2: Exponential Functions

Unit 2: Equations

Lesson 3: Polynomials

Lesson 4: Factoring

Unit 3: Solving Inequalities

Lesson 5: Quadratic Functions

Lesson 6: Quadratic Equations

Unit 4: Functions

Lesson 7: Radical Expressions

Lesson 8: Radical Equations

Unit 5: Linear Functions

Lesson 9: Rational Expressions

Lesson 10: Rational Functions

Unit 6: Systems of Equations and Inequalities

Lesson: 11 Data Analysis

Lesson 12: Probability

Required Textbooks and Materials**(available through Follett virtual bookstore at <http://highschool.nebraska.bkstr.com>)**

No specific kit or additional textbook are required, a scientific calculator, pencils (with erasers), notebook paper, and some standard graph paper are recommended.