

## **First Year Algebra 1**

MTHH031061

Credits: 0.5 units / 5 hours | NCAA Approved

### **Course Description**

First Year Algebra 1 is the first in a two-semester series of courses that will help you understand the meaning of variables and how we use them to represent numbers. In this course, you will learn how to solve many equations and inequalities with one or two variables. You will also learn how to graph equations and come to understand the relationship between a graph and its equation. Most importantly, this course will give you a basic understanding of Algebra — how numbers and variables work together. The goal of this course is to refresh the Algebra skills you already have (even if you may not realize you have them), challenge your mind to learn more difficult material, and build new mathematical knowledge through problem solving.

### **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. Understand variables and function patterns.
2. Use the distributive property with rational numbers.
3. Explain how to write a function rule.
4. Solve one-step and multi-step equations.
5. Calculate and evaluate the slope in different equations.
6. Illustrate graphs of equations, inequalities, and absolute value.
7. Understand and apply probability.
8. Differentiate between direct and inverse variation.
9. Problem solve with ratios, proportions, and percents.

### **Course Outline**

#### **Unit 1: Foundations of Algebra**

Lesson 1: The Language of Algebra

Lesson 2: Tools of Algebra

**Unit 2: Equations**

Lesson 3: Equations & Formulas

Lesson 4: Proportion and Percent

**Unit 3: Solving Inequalities**

Lesson 5: Simple Inequalities

Lesson 6: Multi-Step & Compound Inequalities

**Unit 4: Functions**

Lesson 7: Function Concepts

Lesson 8: Applying Functions

**Unit 5: Linear Functions**

Lesson 9: Characteristics of Linear Functions

Lesson 10: Using Linear Functions

**Unit 6: Systems of Equations and Inequalities**

Lesson: 11 Systems of Linear Inequalities

Lesson 12: Linear Inequalities

**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.