This course continues an expanded, two-year Algebra I sequence designed for students who are not yet prepared for the academic challenges of the traditional one-year Algebra I curriculum.

Second year course topics include a review of introductory algebra; measurement; graphing data; linear equations; systems of linear equations; polynomials; factoring of polynomials; factoring of quadratic functions; rational expressions; and radical expressions.

The two course sequence features ample opportunity for students to hone their computational skills by working through practice problem sets before moving on to formal assessment.

This course is built to state standards.

Length: Two Semesters

Unit 1: Review of Algebra I-A

- Integers and Operations
- Fractions and Decimals
- Exponents
- Variables and Problem Solving
- Solving with Addition and Subtraction
- Solving with Multiplication and Division
- Solving with Roots and Powers
- Solving Multistep Linear Equations
- Review of Algebra I-A Wrap-Up
- Diagnostic

Unit 2: Graphing Data

- The Cartesian Coordinate System
- Geometry with Coordinates
- The Distance Formula
- Data Analysis
- Graphing Data Wrap-Up
- Diagnostic

Unit 3: Linear Equations

- Patterns and Lines
- Slope
- Parallel and Perpendicular Lines
- Slope-Intercept Equation of a Line
- Point-Slope Equation of a Line
- Linear Inequalities
- Linear Equations Wrap-Up

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- Diagnostic

Unit 4: Systems of Linear Equations

- Two-Variable Systems: Graphing
- Two-Variable Systems: Substitution
- Two-Variable Systems: Elimination
- Two-Variable Systems of Inequalities
- Systems of Linear Equations Wrap-Up
- Diagnostic

Unit 5: Algebra I-B Semester 1 Wrap-Up

Unit 6: Polynomials

- What Is a Monomial?
- What Is a Polynomial?
- Adding and Subtracting Polynomials
- Multiplying Binomials
- Multiplying Polynomials
- Dividing Polynomials
- Polynomials Wrap-Up
- Diagnostic

Unit 7: Factoring of Polynomials

- Why Factor?
- Factoring with Tiles
- Factoring and Graphing
- Grouping
- Factoring of Polynomials Wrap-Up
- Diagnostic

Unit 8: Factoring of Quadratic Expressions

- Factoring x² + bx + c
- Factoring ax² + bx + c
- Special Cases
- Solving Quadratic Equations
- The Quadratic Formula
- Graphs of Quadratic Functions
- Factoring of Quadratic Expressions Wrap-Up
- Diagnostic

Unit 9: Rational Expressions

- Proportions
- Rational Expressions
- Simplifying Rational Expressions
- Advanced Proportions
- Rational Expressions Wrap-Up

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- Diagnostic

Unit 10: Radical Expressions

- Basics of Radicals
- Multiplying and Dividing Radicals
- Adding and Subtracting Radicals
- Rationalizing Denominators
- Radical Expressions Wrap-Up
- Diagnostic

Unit 11: Algebra I-B Semester 2 Wrap-Up

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