Liberal Arts Mathematics 1 addresses the need for an elective course that focuses on reinforcing, deepening, and extending a student’s mathematical understanding. Liberal Arts Mathematics 1 starts with a review of problem-solving skills before moving on to a variety of key algebraic, geometric, and statistical concepts. Throughout the course, students hone their computational skills and extend their knowledge through problem solving and real-world applications.

Course topics include problem solving; real numbers and operations; functions and graphing; systems of linear equations; polynomials and factoring; geometric concepts such as coordinate geometry and properties of geometric shapes; and descriptive statistics.

Within each Liberal Arts Mathematics 1 lesson, students are supplied with a scaffolded note-taking guide, called a Study Sheet, and are given ample opportunity to practice computations in low-stakes Checkup activities before moving on to formal assessment. Additionally, students will have the opportunity to formulate and justify conclusions as they extend and apply concepts through printable exercises and “in-your-own-words” interactive activities.

This course is built to Florida’s Next Generation Sunshine State Standards and Benchmarks.

Length: Two semesters

UNIT 1: SOLVING EQUATIONS AND INEQUALITIES
- Lesson 1: Solving Linear Equations
- Lesson 2: Solving Multistep Linear Equations
- Lesson 3: Solving Linear Inequalities
- Lesson 4: Literal Equations
- Lesson 5: Solving Absolute Value Equations and Inequalities
- Lesson 6: Measurement and Units
- Lesson 7: Solving Equations and Inequalities Wrap-Up

UNIT 2: FUNCTIONS
- Lesson 1: Domain and Range
- Lesson 2: Identifying Functions
- Lesson 3: Graphs of Functions
- Lesson 4: Functions Wrap-Up

UNIT 3: LINEAR EQUATIONS
- Lesson 1: Slope
- Lesson 2: Slope-Intercept Equation of a Line
- Lesson 3: Point-Slope Equation of a Line
- Lesson 4: Linear Inequalities
- Lesson 5: Two-Variable Systems: Graphing
- Lesson 6: Two-Variable Systems: Substitution
- Lesson 7: Two-Variable Systems: Elimination
- Lesson 8: Two-Variable Systems of Inequalities
- Lesson 9: Systems of Linear Equations Wrap-Up

UNIT 4: EXPONENTS AND EXPONENTIAL FUNCTIONS
- Lesson 1: Exponents
- Lesson 2: Exponential Functions
- Lesson 3: Graphs of Exponential Functions
Lesson 4: Exponential and Linear Growth
Lesson 5: Solving Exponential Equations
Lesson 6: Exponents and Exponential Functions Wrap-Up

UNIT 5: POLYNOMIALS
Lesson 1: What Is a Polynomial?
Lesson 2: Adding and Subtracting Polynomials
Lesson 3: Multiplying Binomials
Lesson 4: Multiplying Polynomials
Lesson 5: Polynomials Wrap-Up

UNIT 6: QUADRATIC EQUATIONS AND FUNCTIONS
Lesson 1: Solving Quadratic Equations
Lesson 2: Completing the Square
Lesson 3: The Quadratic Formula
Lesson 4: Graphs of Quadratic Functions
Lesson 5: Nonlinear Systems of Equations
Lesson 6: Linear, Quadratic, and Exponential Functions
Lesson 7: Performance Task: Pricing for Profit
Lesson 8: Quadratic Equations and Functions Wrap-Up

UNIT 7: NONLINEAR FUNCTIONS
Lesson 1: Parent Functions
Lesson 2: Rational Expressions
Lesson 3: Solving Rational Functions
Lesson 4: Vertical Asymptotes
Lesson 5: Graphing Rational Functions
Lesson 6: Solving Radical Functions
Lesson 7: Nonlinear Functions Wrap-Up

UNIT 8: SEMESTER 1 EXAM
Lesson 1: Semester 1 Review and Exam

UNIT 9: DESCRIPTIVE STATISTICS
Lesson 1: Measures of Center and Spread
Lesson 2: Dot Plots, Box Plots, and Histograms
Lesson 3: Describing Distributions
Lesson 4: Descriptive Statistics Wrap-Up

UNIT 10: FOUNDATIONS OF GEOMETRY
Lesson 1: Introduction to Proofs
Lesson 2: Basic Postulates in Geometry
Lesson 3: Planes and the Space of Geometry
Lesson 4: Intersecting Lines and Proofs
Lesson 5: Parallel Lines and Proofs
Lesson 6: Foundations of Geometry Wrap-Up

UNIT 11: TRIANGLES
Lesson 1: What Is a Triangle?
Lesson 2: The Angles of a Triangle
Lesson 3: Congruence
Lesson 4: Congruence Postulates
Lesson 5: Proofs of Congruence