

Mathematics for College Success provides a math curriculum focused on developing the mastery of skills identified as critical to postsecondary readiness in math. This single-semester elective is aligned with Florida's Postsecondary Readiness Competencies in mathematics and targets students who are required to complete additional instruction based on their performance on the Postsecondary Education Readiness Test (PERT).

Course topics include a review of algebra concepts; functions and sequences; systems of equations; polynomials; factoring quadratic expressions; rational expressions; and data analysis.

Throughout the course, students are supplied with scaffolded note-taking guides, called Study Sheets, as well as post-study Checkup activities that provide them the opportunity to hone their computational skills by working through a low-stakes, 10-question problem set before moving on to formal assessment. Formative assessments help students to understand areas of weakness and improve performance, while summative assessments chart progress and skill development.

The course is built to Florida Postsecondary Readiness Competencies.

Length: One semester

UNIT 1: REVIEW OF ALGEBRA CONCEPTS

- Lesson 1: Types of Numbers
- Lesson 2: The Operations on a Number Line
- Lesson 3: Integers and Operations
- Lesson 4: Fractions, Decimals, and Percents
- Lesson 5: Operations with Exponents
- Lesson 6: Variables and Problem Solving
- Lesson 7: Solving with Addition, Subtraction, Multiplication, and Division
- Lesson 8: Solving Multistep Linear Equations
- Lesson 9: Solving Linear Inequalities
- Lesson 10: Percentages and Commission
- Lesson 11: Sales Tax
- Lesson 12: Review of Algebra Concepts Wrap-Up

UNIT 2: RATIOS, RATES, AND PROPORTIONS

- Lesson 1: Estimation and Scale
- Lesson 2: Precision in Measurement
- Lesson 3: Applications of Measurement
- Lesson 4: Measurement Conversions
- Lesson 5: Introduction to Ratios
- Lesson 6: Proportions
- Lesson 7: Rates
- Lesson 8: Ratios, Rates, and Proportions Wrap-Up

UNIT 3: FUNCTIONS

- Lesson 1: Domain and Range
- Lesson 2: Identifying Functions
- Lesson 3: Graphs of Functions
- Lesson 4: Adding and Subtracting Functions
- Lesson 5: Functions Wrap-Up

UNIT 4: LINEAR EQUATIONS

- Lesson 1: Slope
- Lesson 2: Slope-Intercept Equation of a Line
- Lesson 3: Point-Slope Equation of a Line
- Lesson 4: Parallel and Perpendicular Lines
- Lesson 5: Linear Inequalities
- Lesson 6: Linear Equations Wrap-Up

UNIT 5: TRANSFORMING FUNCTIONS

- Lesson 1: Parent Functions
- Lesson 2: Shifting Functions
- Lesson 3: Stretching Functions Vertically
- Lesson 4: Transformation of Parent Functions
- Lesson 5: Arithmetic of Functions
- Lesson 6: Transforming Functions Wrap-Up

UNIT 6: SYSTEMS OF LINEAR EQUATIONS

- Lesson 1: Two-Variable Systems: Graphing
- Lesson 2: Two-Variable Systems: Substitution
- Lesson 3: Two-Variable Systems: Elimination
- Lesson 4: Two-Variable Systems of Inequalities
- Lesson 5: Systems of Linear Equations Wrap-Up

UNIT 7: POLYNOMIALS

- Lesson 1: What Is a Polynomial?
- Lesson 2: Adding and Subtracting Polynomials
- Lesson 3: Multiplying Binomials
- Lesson 4: Multiplying Polynomials
- Lesson 5: Graphing Polynomials
- Lesson 6: Polynomials Wrap-Up

UNIT 8: FACTORING QUADRATIC EXPRESSIONS

- Lesson 1: Why Factor?
- Lesson 2: Factoring and Graphing
- Lesson 3: Grouping
- Lesson 4: Factoring $x^2 + bx + c$
- Lesson 5: Factoring $ax^2 + bx + c$
- Lesson 6: Special Cases
- Lesson 7: Solving with Roots and Powers
- Lesson 8: Solving Quadratic Equations
- Lesson 9: Completing the Square
- Lesson 10: The Quadratic Formula
- Lesson 11: Graphs of Quadratic Functions
- Lesson 12: Factoring Quadratic Expressions Wrap-Up

UNIT 9: RATIONAL AND RADICAL EXPRESSIONS

- Lesson 1: Rational Expressions
- Lesson 2: Simplifying Rational Expressions
- Lesson 3: Multiplying and Dividing Rational Expressions
- Lesson 4: Adding and Subtracting Rational Expressions
- Lesson 5: Rational Equations
- Lesson 6: Basics of Radicals

- Lesson 7: Multiplying and Dividing Radicals
- Lesson 8: Adding and Subtracting Radicals
- Lesson 9: Rationalizing Denominators
- Lesson 10: Solving Radical Equations
- Lesson 11: Rational and Radical Expressions Wrap-Up

UNIT 10: DATA ANALYSIS

- Lesson 1: Categorical Data
- Lesson 2: Measures of Center
- Lesson 3: Box Plots
- Lesson 4: Two-Variable Data and Scatterplots
- Lesson 5: Fitting Linear Models to Data
- Lesson 6: Data Analysis Wrap-Up

UNIT 11: EXAM

- Lesson 1: Exam