Mathematics for College Algebra Year at a Glance

Scope and Sequence 2024 - 2025
Please Note: All standards in the state course description are designed to be learned by the end of the course. This guide represents a recommended timeline and sequence to be used voluntarily by teachers for planning purposes. Specific question regarding when content will be addressed in a specific course are best answered by the individual teacher.
Course Resources
Publisher Resource: College Algebra and Trigonometry 7e, Savvas Learning Company LLC **Supplemental Resources:** Khan Academy (does not support Internet Explorer)
In Mathematics for College Algebra, instructional time will emphasize five areas:
(1) Developing fluency with the Laws of Exponents with numerical and algebraic expressions. (2) Extending arithmetic operations with algebraic expressions to include rational and polynomial expressions. (3) Solving one-variable exponential, logarithmic, radical and rational equations and interpreting the viability of solutions in real-world contexts. (4) Modeling with and applying linear, quadratic, absolute value, exponential, logarithmic and piecewise functions and systems of linear equations and inequalities. (5) Extending knowledge of functions to include inverse and composition

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Quarter 1 (August 12 – October 11)
Chapter R: Review of Basic Concepts Students will review concepts from Algebra 2, including real number operations, integer and rational exponents, polynomials, and rational and radical expressions. Students will build on these skills throughout the remainder of the course. **Chapter 1: Equations and Inequalities** Students will work with linear, quadratic and rational equations. They will write and solve these equations using real-world scenarios. Students will write and solve linear and absolute value inequalities.
Quarter 2 (October 15 – December 20)
Chapter 2: Graphs and Functions Students will identify a function from a given scenario, they will create linear models. Students will be able to write and graph linear models in various forms (point-slope, slope-intercept, and standard form). They will be able to identify key features of the graphs and provide solutions to equations from a graph. Students will also learn graphing techniques that will stretch/shrink, reflect, and translate graphs. Students will perform operations and compositions on given functions. **Chapter 9: Systems** Students will graph and solve systems of linear equations and inequalities.
Quarter 3 (January 6 – March 13)
Chapter 3: Polynomial and Rational Functions Students will use identify zeros of polynomial functions using synthetic division, remainder theorem, factor theorem, and rational zeros theorem. Students will use the zeros of the function to graph polynomials and describe key features of the graph (including end behavior, domain, range, behavior of zeros, and intercepts). Students will graph rational functions and identify vertical and horizontal asymptotes of these function.

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Quarter 4 (March 24 – May 30)
Chapter 4: Inverse, Exponential, and Logarithmic Functions Students will graph and solve exponential and logarithmic equations. Students will learn about the inverse relationship between logarithmic functions and exponential functions. They will create equations that model real-world scenarios of exponential growth and decay.