

**SOUTH WESTERN SCHOOL DISTRICT
PLANNED COURSE**

Course Title: Algebra II

Grade Level: 9, 10, 11, 12

Course Materials:

Primary Source(s)
Glencoe Algebra II

Supplemental Source(s)
Practice Masters
Study Guide Interventions
Skills Practice
Cognitive Tutor Textbook

Key Learning:

All students will know that:

1. Data can be displayed, interpreted, and analyzed in a linear relationship.
2. Various methods can be used to solve systems of linear equations and inequalities.
3. Data analysis can be used to manage information, identify patterns, and make predictions.
4. Quadratic equations can be solved graphically and algebraically.
5. Operations can be performed with polynomials.
6. Algebraic processes are necessary for simplifying expressions and solving equations involving radicals.

Essential Questions:

Linear Relations & Functions

1. How do you classify real numbers?
2. How do you solve compound inequalities?
3. How do you solve absolute value inequalities?
4. How do you convert a linear equation from standard form to slope-intercept form and vice versa?
5. How do you determine if two lines are parallel, perpendicular, or neither?
6. How can you graph a linear equation?
7. How do you construct and write the equation for a line of best fit given a scatter plot?

System of Linear Equations and Inequalities

1. How do you solve a system of linear equations graphically?
2. How do you solve a system of equations using substitution?
3. How do you solve a system of equations using elimination?
4. How do you solve a system of equations using Cramer's Rule?
5. How do you solve a three-variable system of equations?
6. How do you write and/or solve a system of equations to find a solution in a real life situation?
7. How do you solve a system of linear inequalities?
8. How is linear programming used to optimize cost or profit?