# Algebra II - Syllabus

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### Purpose:

Algebra 2 continues the students’ study of advanced algebraic concepts by emphasizing practical applications. Technology is a key component of this course. This course prepares students for advanced mathematics courses in high school and college.

**Prerequisite skills:**

To be successful in the algebra 2 classroom students must already be able to:

* Add, subtract, multiply and divide whole numbers, fractions, decimals, and integers
* Work with percents, rates and ratios
* Be able to use compound interest formulas
* Graph linear functions (includes inequalities and systems)
* Work with polynomials
* Factor 1st and 2nd degree polynomials
* Solve 1st and 2nd degree equations, inequalities and systems
* Have a basic knowledge of exponents
* Communicate proficiently using the vocabulary of mathematics

**Order of Instruction:**

* First nine weeks – Algebraic expressions, solving and graphing equations and inequalities with one and two variables, absolute value, linear equations, direct variations, and solving systems with 2 and 3 variables.
* Second nine weeks – Solving quadratic equations, quadratic formula, intercepts, quadratic translations, completing the square, graphing parabolas, factoring, complex numbers, polynomial functions, theorems about roots, dividing polynomials, solving polynomial equations and real world models with polynomials.
* Third nine weeks – Roots and radical expressions, operations with radical expressions, rational exponent, solving radical equations, operations with functions, inverse relations, graphing radical functions, exponential growth and decay, logarithms.
* Fourth nine weeks – Inverse variations, operations with rational expressions, solving rational equations, mathematical patterns, sequences and series

**Students:**

Students are expected to be active participants in their education. The student is expected:

* To attend class each day (attendance and passage rates in algebra have a strong correlation)
* Complete all homework and assignments, showing your work
* Request extra help, ask questions
* Take advantage of school tutoring or use outside tutoring services
* Fill in your math holes, spend time outside of class practicing and reinforcing skills
* Work hard on mastering the material

**Parents:**

* Help your child set up a study area to complete homework
* Ask your child to talk through a solution to a math problems (remember there are multiple ways to solve for a solution)
* Have them revisit their class work to make sure they understood the concepts taught that day
* Encourage your child to dialog with you, their math teacher or tutor about misconceptions
* Have your child form a study group
* Encourage your child to use online help

**Helpful Websites:**

* [pearsonsuccessnet.com](http://www.algebra1.com)
* [www.purplemath.com](http://www.purplemath.com)
* [www.fcatexplorer.com](http://www.fcatexplorer.com)
* [www.geogebra.org](http://www.geogebra.org)
* [www.coolmath.com](http://www.coolmath.com)

**Grading procedures:**

Your grade will be calculated using the following:

50% Tests

20% Homework

30% Class work, openers, quizzes, writing in the content area