Algebra 2A Course Syllabus
2018-2019

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Room: A229
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Textbook: Glencoe, <u>Algebra 2</u>   (Books may be checked out upon request.)

Materials Required:
- TI-83+/84+ or compatible graphing calculator (The TI 83/84 will be used in class for demonstration by the teacher; students using another brand will need to be able to navigate their user manual on their own!)
- Pencil, eraser, 3-ring binder to organize notes, homework, etc.

Course Description:
Algebra 2 is designed for all students preparing to enter the work force or continue study at the post-secondary level. Students will further develop algebraic skills and integrate their more recent study of Geometry.

Course Topics:
Unit 1: Systems of Equations and Inequalities
Students will use graphical methods to represent two equations as lines in a single plane, identify points common to the two lines, and explore when the two lines have points in common. They will develop algebraic methods to solve systems of two equations in two variables. Students will represent linear inequalities as regions of the plane, find regions that represent solutions, and solve linear programming problems.
Unit 2: Quadratic Functions and Inequalities (Graphing)
Students solve quadratic equations by graphing and by using the Quadratic Formula. They explore how values of a quadratic equation are reflected in the parabola that represents it, and use equations and graphs to explore quadratic equations that have 0, 1, or 2 roots. They relate the value of the discriminant to the number of roots and to whether the roots are rational, irrational, or complex.
Unit 3: Quadratic Functions and Inequalities (Solving)
Students solve quadratic equations by graphing and by using the Quadratic Formula. They explore how values of a quadratic equation are reflected in the parabola that represents it, and use equations and graphs to explore quadratic equations that have 0, 1, or 2 roots. They relate the value of the discriminant to the number of roots and to whether the roots are rational, irrational, or complex.
Unit 4: Polynomials (Basics)
Students learn how to apply the basic arithmetic operations to polynomials, radical expressions and complex numbers. They explore factoring polynomials and solving radical equations and inequalities. They learn how to write equivalent statements by using the Distributive Property, properties of exponents, or properties of radicals. They solve equations and inequalities involving polynomials, radicals or complex numbers.
Unit 5: Polynomials (Graphing)
Students learn how to apply the basic arithmetic operations to polynomials, radical expressions and complex numbers. They explore factoring polynomials and solving radical equations and inequalities. They learn how to write equivalent statements by using the Distributive Property, properties of exponents, or properties of radicals. They solve equations and inequalities involving polynomials, radicals or complex numbers.
Unit 6: Exponential and Logarithmic Relations (Sections 10.1 – 10.6)
Students are introduced to the term logarithm to solve for a variable that appears as an exponent. They explore the relationship between exponents and logarithms, and they use logarithms with two special bases, base 10 (common logarithms) and base e (natural logarithms). They apply the Change of Base Formula to rewrite a logarithm using a different base, and they apply appropriate formulas to solve problems involving exponential growth and exponential decay.

Teaching Format:

Class will begin promptly with a warm-up. After the warm-up, you will be expected to correct your homework. Time will be given to discuss questions on the homework. Next, the new lesson will be covered through a variety of learning strategies.

Grading Procedure

Tests (70% of the Semester Grade)

There will be periodic tests at appropriate checkpoints (some chapters will have more than one test). **If you are absent on the day of the test, be prepared to take it on the day you return**. Retest policy: See WOHS Math Department Guidelines.

Quizzes (25% of the Semester Grade)

There will be periodic quizzes to check for understanding during each unit. If you are absent on the day of the quiz, be prepared to take it on the day you return. **No retakes are given on quizzes.**

Homework (5% of the Semester Grade)

Homework will be checked daily and recorded based on completion. All missing and incomplete assignments must be completed by test day. Homework completion is defined as homework in which adequate and required work is shown and steps are given to support the answers.

Expectations:

1. Arrive on time and be prepared. (See tardy policy below.)
2. Respect other students, the teacher, and the classroom.
3. Participate in class discussions and activities (a good *participator* is also a good *listener*).
4. Please refrain from eating or drinking in the classroom. (You may bring a water bottle.)

Guidelines:

1. Be a risk-taker: ask questions when puzzled, unsure or skeptical.
2. Be caring: raise your hand respectfully to be recognized if you have something to share.
3. Be principled: act with integrity and honesty, take responsibility for your actions.

Bathroom Policy:

One at a time. A hall pass MUST be used. Please refrain from asking to leave the room during guided notes.

Absence/Tardy Policy:

We will follow the WOHS absence and tardy policy as outlined in the school handbook.

> 1st tardy: Verbal warning.
> 2nd tardy: Verbal warning.
> **3rd tardy: Lunch detention**.
> 4th +: Lunch detention and a parent phone call.