Algebra 2 Course Syllabus

Mrs. T. Martin

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Conference times are available by appointment.

The following topics are covered in Algebra 2:

- Together, irrational numbers and rational numbers complete the real number system, representing all points on the number line, while there exist numbers beyond the real numbers called complex numbers.
- Matrices are a useful way to represent information.
- *Expressions can be rewritten in equivalent forms using algebraic properties, including properties of addition, multiplication, and exponentiation, to make different characteristics or features visible.*
- Finding solutions to an equation, inequality, or system of equations or inequalities requires the checking of candidate solutions, whether generated analytically or graphically, to ensure that solutions are found and that those found are not extraneous.
- The structure of an equation or inequality (including, but not limited to, one-variable linear and quadratic equations, inequalities, and systems of linear equations in two variables) can be purposefully analyzed (with and without technology) to determine an efficient strategy to find a solution if one exists, and then to justify the solution.
- Expressions, equations, and inequalities can be used to analyze and make predictions, both within mathematics and as mathematics is applied in different contexts—in particular, contexts that arise in relation to linear, quadratic, and exponential situations.
- Graphs can be used to obtain exact or approximate solutions of equations, inequalities, and systems of equations and inequalities—including systems of linear equations in two variables and systems of linear and quadratic equations (given or obtained by using technology).
- Functions can be described by using a variety of representations: mapping diagrams, function notation (e.g., f(x) = x2), recursive definitions, tables, and graphs.
- Functions that are members of the same family have distinguishing attributes (structure) common to all functions within that family.
- Functions can be represented graphically, and key features of the graphs, including zeros, intercepts, and, when relevant, rate of change and maximum/minimum values, can be associated with and interpreted in terms of the equivalent symbolic representation.
- Functions model a wide variety of real situations and can help students understand the processes of making and changing assumptions, assigning variables, and finding solutions to contextual problems.
- Mathematical and statistical reasoning about data can be used to evaluate conclusions and assess risks.
- Making and defending informed data-based decisions is a characteristic of a quantitatively literate person.
- Distributions of quantitative data (continuous or discrete) in one variable should be described in the context of the data with respect to what is typical (the shape, with appropriate measures of center and variability, including standard deviation) and what is not (outliers), and these characteristics can be used to compare two or more subgroups with respect to a variable.
- Study designs are of three main types: sample survey, experiment, and observational study.

- The role of randomization is different in randomly selecting samples and in randomly assigning subjects to experimental treatment groups.
- The scope and validity of statistical inferences are dependent on the role of randomization in the study design.
- Bias, such as sampling, response, or nonresponse bias, may occur in surveys, yielding results that are not representative of the population of interest.
- The larger the sample size, the less the expected variability in the sampling distribution of a sample statistic.
- The sampling distribution of a sample statistic formed from repeated samples for a given sample size drawn from a population can be used to identify typical behavior for that statistic. Examining several such sampling distributions leads to estimating a set of plausible values for the population parameter, using the margin of error as a measure that describes the sampling variability.
- When an object is the image of a known object under a similarity transformation, the length, area, or volume of the image can be computed by using proportional relationships
- Recognizing congruence, similarity, symmetry, measurement opportunities, and other geometric ideas, including right triangle trigonometry in real-world contexts, provides a means of building an understanding of these concepts and is a powerful tool for solving problems related to the physical world in which we live.

All of these have subtopics that must be covered. This is a general list of the topics covered in Algebra 2. In addition to these, we will review selected topics from Algebra 1 and Geometry that are needed to successfully complete this course.

Attendance is very important to successfully complete this course.

Do not get behind. If you need help, it is in your best interest to ask questions immediately. (I will always give opportunities to ask questions!)

Complete your assignments on time. If you make mistakes when you make a good-faith effort to complete an assignment on time, I will usually give you time to correct the assignment before taking it for a grade. NOTES and ASSIGNMENTS will be posted on Google Classroom (parents can request viewing access).

TEXTBOOK: Online access to EnVision Algebra 2 through Savvas as well as the material available through Pearson MathXL for schools. (District-provided materials accessible through students' Clever account.) Physical book is available upon request from library.
Other materials: Teacher-developed worksheets and assignments using Kuta software. Online materials: MathNation, or other state approved online materials utilized for remediation and or review.

Supplies

- Casio fx-300ES Plus (scientific calculator)
- Binder
- plenty of notebook paper for the year
- pencils to last the entire year
- one subject notebook (with three holes to go in binder)
- School issued Chromebook
- TI-84 CE Graphing Calculator (classroom set provided for use at school only)

Rules

- Be on time. (tardies to class will be marked in PowerSchool)
- Be respectful. (includes all school personnel and fellow students)
- Be responsible. (bring needed materials and use class time appropriately)
- Backpacks are not allowed in the classroom.
- Phones and other electronic devices (smart watches, earbuds, AI glasses, etc) are not allowed to be used or in a student's possession during the school day.
    - Cell phone/device violations will be handled according to LCS Code of Conduct
- The Code of Conduct should be followed at all times.

Consequences

- 1st offense--Verbal Warning
- 2nd offense--Student/Teacher conference
- 3rd offense--Student/Teacher conference with possible loss of privilege and/or Honor Code AND contact parent/guardian
- 4th offense--Office referral
- The expectations and consequences outlined in the Code of Conduct will be followed.

***Note that major offenses (ex. Fighting, disruptive outbursts, or behavior that causes concern for the safety of others, etc.) will be automatically referred to the office. Phone/electronic device violations will also be immediately reported to the office.**

T. Martin--Algebra 2 Syllabus receipt
Please sign and return the SEPARATE signature page.

- I have received a copy of the syllabus and contact information for this teacher was listed.
- I understand that I, the student, am responsible for coming to class prepared and following the Code of Conduct for Lawrence County Schools.
- I understand makeup work is the responsibility of me, the student, and that I have three days to complete makeup work. Any absence on a test day must be EXCUSED in order to make up the test.
- I understand that grades will be calculated in the following manner: Percent calculated by dividing points earned by points available (Range of 5-30 points for Daily assignments, classwork, quizzes, etc.) (Range of 50-100 points for Tests or Projects)

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Student signature_____Date_____

Parent signature _____Date_____

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