Thomas Alva Edison High School



Advanced Algebra
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Course Description:

Advanced Algebra is a yearlong course with an investigation-based curriculum that prioritizes sense-making and reasoning over memorization and drill. Procedural skills will evolve from, and are connected to, conceptual understanding. Students will be making sense of problems, estimating, trying different approaches, selecting and using appropriate tools, evaluating the reasonableness of their answers, noticing patterns and making generalizations, explaining their reasoning verbally and in writing, listening to the reasoning of others, and building their understanding.

Course Topics:

We are using the Open Up: High school Mathematics Algebra 2 Curriculum which includes the following major content areas:

Unit 1: Functions and their Inverses *LT 1A: I can graph and solve linear functions.* *LT 1B: I can identify inverse functions and describe their characteristics using multiple representations*	**Unit 5: Rational Functions** *LT 5A: I can identify and describe the features of a rational function (asymptotes--vertical and horizontal, discontinuities, intercepts, end behavior)* *LT 5B: I can perform operations with rational functions*
Unit 2: Logarithmic Functions *LT 2A: I can express and evaluate logarithms represented in a variety of forms* *LT 2B: I can solve exponential equations using the inverse (including compound interest)*	**Unit 6: Modeling Periodic Behavior** *LT 6A: I can use right triangle trig to determine exact trig values.* *LT 6B: I can use right triangle trig to graph sine and cosine.* *LT 6C: I can perform trig operations in degrees and radians*
Unit 3: Number Systems and Operations *LT 3A: I can perform operations on polynomials (add, subtract, multiply, and divide)* *LT 3B: I can convert between multiple forms of a quadratic function involving complex roots*	**Unit 7: Trig Functions and Identities** *LT 7A: I can identify and describe the features of a trig function in multiple representations (amplitude, period, phase, midline)* *LT 7B: I can solve trig equations using trig identities and inverse operations.*
Unit 4:Polynomial Functions *LT 4A: I can describe features of polynomials in multiple representations, including those with complex roots*	**Unit 9: Statistics** *LT 9A: I can describe features of the normal distribution and use z-score to predict the probability of simple events* *LT 9B: I can apply my understanding of sampling methods and types of statistical studies to evaluate a claim and predict population means and proportions.*

Supplies:

Required:

- ***Chromebook***
- ***A Notebook***
- ***Folder***
- ***Writing Utensils***

Suggested:

- ***Post-Its and Highlighters***
- ***Markers or Colored Pencils***
- ***Graphing Calculator***
- ***Kleenex***

Grading Breakdown:

*80% Assessments (*Tests, quizzes, and projects)
Each of the eight units established in the Curriculum Guide will be broken down into skill specific learning targets. Students will have opportunities to demonstrate their comprehension of each learning target throughout the unit with quizzes, summative unit tests, and an occasional project. Students who are absent should schedule an appointment with their teacher within one week of the missed assessment. Students with their phone out during an exam or who are caught using AI to complete any part of an exam/project will automatically receive 0 points and they must complete an alternative assessment to earn a grade.

Correction Policy (Tests and projects)
Students will have an opportunity to make corrections on their summative unit tests to recover half of the points missed (with the exception of the quarter finals, which cannot be corrected). Corrections must be done in the classroom and assessments must stay in the classroom. Students should review their practice materials and notes before making corrections. After making corrections, students may schedule an appointment to take a retake with the ability to earn full credit.

20% Academic Practice (Homework and classwork)
Homework is an opportunity to practice independently and check understanding of course concepts. Most days, students will have an assignment to complete in class. Any uncompleted work becomes homework. Students are expected to work with their classmates outside of class or talk to their teacher about making an appointment. Practice assignments are intended to help prepare students for summative assessments.

Other Classroom Conduct Expectations:

Passes: All students must have a pass in the halls and be ready to present it if asked. Students are expected to use the bathroom during passing time and lunch breaks and they should limit their use of the bathroom pass during class whenever possible. Students should wait for a pause in instruction or work time and ask the teacher for permission for the pass before leaving. Passes are not granted during the first or last 10 minutes of class.

Cell phones: At the beginning of each class period, students will turn off all personal electronic devices and place them in the designated cell phone holder at the front of the room. Devices will remain in the designated holder until the end of class, when students may collect them as directed by the teacher. Students will not be allowed to take their cell phones to the bathroom using the bathroom pass. If cell phones are used in class the student will be removed from the classroom. Admin will contact parents/guardians; devices may be retrieved by the student at the end of the day from the main office. See the student handbook for more details.

Group Work and Discussion Norms: Students will be working in pairs or small groups frequently throughout the year. Working with a group will make the time in this class much easier and more enjoyable. Students are expected to contribute to their group while speaking and listening to each other with respect, learning and using each other's name, and tracking the speaker as they talk.