

Algebra I
2019 – 2020
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Room 9

1st Period: Open
2nd Period: Math 8
3rd Period: Algebra I
4th Period: Algebra I
5th Period: Algebra I
Lunch
6th Period: Algebra I
7th Period: Prep
8th Period: Targeted Assistance for Algebra I

Essential Learning Outcomes

- Students will demonstrate strong problem solving and reasoning skills to develop mathematical proficiency.
- Students will simplify and/or solve a wide variety of number and algebraic expressions (including exponents and radicals).
- Students will understand linear functions, graphs, and inequalities and will solve linear equations.
- Students will represent, describe, and compare data sets.
- Students will understand quadratic functions and their graphs and will solve quadratic equations using various strategies.

Course Description:

Algebra is the key course for High School Math. We will cover a wide variety of skills and concepts to prepare students for Geometry, Trigonometry, Calculus, as well as Biology, Chemistry, and Physics. In addition to the Common Core Standards for High School Algebra, we will work on the Standards of Mathematical Practice throughout the year.

These are:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

The content and standards for this course are very rigorous. Please expect to work toward mastery of the material and to utilize the supports that are offered early and often to accomplish our academic goals.

Textbook and Required Materials

Each student will receive a copy of the textbook that can be taken and left at home to avoid having to carry it back and forth. Students are responsible for returning the book in similar condition to how it was received and may be charged for any excessive damage or loss. The only materials required for the course are **a consistent supply of paper and pencils for work.**

Course Outline	
<p>First Semester</p> <ul style="list-style-type: none"> () Foundations for Algebra () Solving Equations () Solving Inequalities () Introduction to Functions () Linear Functions () Systems of Equations and Inequalities 	<p>Second Semester</p> <ul style="list-style-type: none"> () Exponents and Exponential Functions () Polynomials and Factoring () Quadratic Functions and Equations () Radical Expressions and Equations () Rational Expressions and Functions () Data Analysis and Probability

Grades and Grading Policy	
<p>Grade Weights</p> <p>Semester Grade Q1 grade: 40%, Q2 grade: 40%, Final exam grade: 20%</p> <p>Quarter Grade: Homework: 40%, Assessments/Quizzes: 50%, Attendance and Participation: 10%</p> <p><i>Attendance each day is an important part of being able to achieve consistent and uninterrupted growth in mathematics. It is vital that students are present and on time each day. HOWEVER, mere presence is not enough to earn all of the points- active participation and not being disruptive are also required.</i></p>	<p>Grading Policy</p> <p>Students will keep a portfolio of completed work in the classroom. These portfolios will be graded weekly and the information entered into Powerschool on the following schedule:</p> <ul style="list-style-type: none"> 2nd period: Mondays 3rd period: Tuesdays 4th period: Wednesdays 5th period: Thursdays 6th period: Fridays <p>Scores on assignments will range from 5 to 10 points, based upon the quality of the work and the accuracy of the responses. No assignment will be scored until it is complete (it will be entered as a "0" in Powerschool if it is incomplete).</p>

Homework	
<p>Students WILL have homework regularly.</p> <p>Typically students will be assigned a section of homework to complete each day. This results in 3 to 5 assignments each week.</p> <p>Most often, students are assigned odd numbered problems to complete. This is to allow them to grade their own work by checking their answers in the back of the textbook. This instant feedback of whether a response is correct is crucial for effective work.</p>	<p>Homework is rarely due the day following its assignment. This allows families the opportunity to construct a homework schedule that fits into their family calendar. I do not penalize students for their work based on when it is turned in, only on the quality of the work that is submitted.</p> <p><i>Any assignment or assessment can be redone for a higher score at any point during the semester.</i></p>

Teaching Philosophy

This class is focused around helping students achieve a deep conceptual understanding of the material. The goal is for students to be able to engage in the content in a way that is more than just a reproduction of a learned procedure. As such, they will receive instruction around metacognition, educational psychology, and learning practice as tools to support their mathematical work. I will rely heavily on direct work with expanding each student's Zone of Proximal Development by utilizing the Engagement Strategies below and on work that draws from Webb's Depth of Knowledge levels (primarily level 2 and above).

Engagement Strategies

Students will be instructed on how and when to apply these strategies in the classroom. They are a resource for each student to ensure they are adequately participating in their own instruction.

Restate Table Talk Over the Edge Sample Problem Define
 Build on PK Specific Question Question Feedback

I am extremely grateful to have joined this community of learners. My door is always open to students, parents, and families to ensure everyone's success in this class. Feel free to drop by before 2nd period, during my prep, or after 8th period to schedule a time to get any additional support that may be needed. Email is the best way to reach me and I will make every effort to be prompt about replying.

Expectations for students:

I expect students to actively participate in their own instruction. Have a question? Ask it. Need help? Get it. Have an assignment? Do it. Bomb a test? Retake it. Want to avoid bombing a test? Study for it. Google some help. Trade numbers with other students to be able to call each other for information or help. Participate in lessons and discussion. Do the things. All of them.

Expectations for families:

Families are the first line of support for learners. If you need any help or advice for how to create positive learning environments at home, feel free to email, call, or come by. Each student will need time and opportunity to work at home as well as support in limiting disruptions and distractions. You don't have to be a mathematician to be able to help a student with their work. A great way to begin is by helping the student identify good questions to ask in class the following day.

Expectations for Mr. Doug:

You should expect respect, professionalism, and support at all times. Customer satisfaction is a priority, and the students and their families are my customers. You should expect timely responses to all inquiries, timely feedback on progress toward learning goals, and sufficient information for all students to be successful. Please bring any needs you have to my attention early so that I may address them.