



Algebra 1

Instructor:

Room:

Office

E-mail:

Hours:

Course Description (Overview):

Algebra I emphasizes understanding the real number system as a basic structure of algebra. Arithmetic operations with real numbers are reviewed and properties of rational and irrational numbers, both subsets of the set of real numbers, are used. Arithmetic operations are performed on polynomials. Students create equations that describe numbers or relationships and solve equations and inequalities in one variable, algebraically and graphically. Students analyze functions in different representations and interpret functions in contexts that arise in applications. Students build functions that model a relationship between two quantities and build new functions from existing ones. Linear, quadratic and exponential functions are constructed, compared, and interpreted as models. The Algebra 1 course is designed to deepen students' understanding of how to use functions as a tool for modeling the world, and what information the solution(s) to a mathematical model can and cannot tell you.

Earning credit in Algebra 1 is required for promotion from ninth to tenth grade.

Course Objectives:

1. Use properties of the real number system.
2. Reason quantitatively and use units to solve problems.
3. Interpret the structure of expressions and write expressions in equivalent forms to solve problems.
4. Understand the concept of function and use function notation.
5. Analyze functions using different representations and interpret functions in terms of context.
6. Build function models of relationships between two quantities and build from existing functions.
7. Understand and explain solving equations as a process of reasoning.
8. Solve equations and inequalities in one variable.
9. Create and solve systems of equations in two variables graphically and algebraically.
10. Construct and compare linear, quadratic and exponential models and use them to solve problems.

Resources and Supplies:

Required Supplies:

- Pencils and Erasers
- 3-ring Binder
- Binder dividers
- Loose leaf Paper
- Scientific Calculator
- Box of Tissues

Grading Policy:

All courses must follow the official DCPS grading scale.

- **10% Engagement** – Attendance, Class Participation, Attending Office Hours, etc.
- **50% Practice and Application** - Projects, Classwork, Homework
- **40% Assessments** - Tests, Quizzes, Exit Tickets, etc.

Course Schedule:

- Unit 1: Fundamentals Review
- Unit 2: Linear Equations
- Unit 3: Inequalities
- Unit 4: Systems of Equations and Inequalities
- Unit 5: Functions
- Unit 6: Exponential Functions
- Unit 7: Multiplying Polynomials and Factoring
- Unit 8: Quadratic Functions
- Unit 9: Transformations of Functions

Homework:

- Homework will generally be assigned daily, except for major test days.
- Most of the homework assignments in this class will be assigned on Delta Math and completed online
- You will be required to get a certain number of questions *correct* (not just answered) to get credit
- Students have the same number of days to make up homework as the number of days missed for an excused absence.

Late Work:

- Missing assignments are still accepted through the end of the advisory
- However, work turned in past the initial deadline (except in the case of excused absences) cannot receive a grade higher than a B (86%)
- Tests and quizzes can also be retaken to earn a higher grade, but can also not receive a grade higher than a B

Class Expectations:

- **Be Engaged** (This means you are actively participating, listening, asking questions, etc.)
- **Be Prepared** (This means that you are present at the start of class with a pencil and paper ready at hand)
- **Be Respectful** Be respectful to yourself, your peers, and me (This means that you listen to each other, speak when appropriate, and use appropriate voice and language)
- **Be Open-Minded** (This means that you are willing to take risks with your learning, challenge yourself, and bring a positive attitude to class)
- **Be Honest** (This means that you do your work individually, with NO cheating. Do the work and show yourself what you can accomplish. It's much more fulfilling)

Attendance:

If you are absent for any reason, you need to get your notes and work caught up immediately upon return. Just because you were gone does not make you exempt. If you are absent during a review day before a test/quiz, you are still responsible for taking that assessment on time. See me if you miss a test/quiz for ways to make it up!

Student Name: _____ Signature: _____

Parent or Guardian Signature: _____