

Gwynn Park High School

Course Title: Algebra 1

Teacher: Mr. K. Mackey, Ms. D. Popoola, Ms. H. Jones, Ms. S Taylor, Mr. T. Hill

Contact Information: 301-372-0140
www.pgcps.org/~gphs/faculty_staff.html

I. Course Description

The Algebra 1 sequence meets the National Council of Mathematics, Maryland State Board of Education and Prince George's County Public Schools' standards and is designed to prepare students for the High School Assessment, the SAT and future mathematics courses. Use of the graphing calculator is an integral part of this course. Students should master both algebraic and calculator methods.

II. Instructional Philosophy

- Each student is expected to attend class every day, arrive prepared with the required materials, participate in class activities, review materials introduced and complete all problems when assigned for classwork or homework.
- The students will be assessed using a variety of question types.
- Teachers will deliver quality instruction of content that enhances students' ability to learn challenging, complex, higher order thinking skills specifically in regard to the Algebra High School Assessment, the PSAT and the SAT.
- Instruction will be delivered with consideration to various learning styles

III. Prerequisite

- Appropriate score on the "Algebra Readiness" test *or* completion of Algebraic Concepts

IV. Grading Factors

Grading factors will be adjusted according to all individualized 504 plans, IEP's, etc.

Assessments / Projects (<i>One or more of the following</i>).....	45%
Tests	
Quizzes	
Portfolios	
Oral Presentations	
Unit Projects	
Benchmark / Quarter Exam.....	25%
Daily Work:	30%
Warm-ups	
Classwork	
Homework	
Group tasks	

Pacing Guide

Domain A: Patterns and Function Relationships

- Recognize and generalize number patterns, geometric patterns, and sequences (including iterative processes) using tables, graphs (including scatter plots), expressions, and matrices
- Read and interpret linear and non-linear graphs and tables
- Model events with non-linear graphs
- Display and interpret given and collected data
- Use the measures of central tendency and variability to make informed decisions
- Given data, estimate the probability of an event
- Make predictions based on interpolations and extrapolations of data/graphs
- Add, subtract, multiply and divide rational numbers (including absolute value)
- Use order of operations (including powers)
- Evaluate expressions, formulas and functions
- Determine appropriate domain and range of relationships and determine appropriate WINDOW on a calculator
- Identify dependent and independent variable
- Create and interpret scatter plots; visually determine line of best fit
- Write a rule for relationships using function notation
- Organize data in matrices; add, subtract, and multiply by a scalar

Domain B: Equations and Inequalities

- Model and solve (algebraically and graphically) one/multi-step linear equations
- Add and subtract like terms
- Use the distributive property
- Solve equations for one variable in terms of another
- Use simple inequalities and graph their solutions
- Solve proportions

Domain C: Linear Functions

- Read solutions from a graph
- Find the rate of change (slope) for a linear function
- Graph a line given the rate of change (slope) and a point on the line
- Find the x and y intercepts and interpret their meaning in real world applications
- Determine the effect of changing the “m” value or “b” value in $y = mx + b$
- Write the slope-intercept form of a line
- Use algebraic transformations to write both the standard form ($ax + by = c$) and the slope-intercept form ($y = mx + b$) of a line
- Relate parallel and perpendicular lines to slope
- Algebraically determine the line of best fit for either given or collected data
- Create a scatter plot on the calculator
- Find the line of best fit using the regression equation on the calculator
- Discuss how closely the linear regression equation models the data by examining the correlation coefficient

Domain D: Systems of Equations and Inequalities

- Solve systems graphically, by substitution, and by eliminations (linear combination)
- Write, solve and graph a system of linear equations that models a real world application; interpret parts of the graph
- Write, solve and graph a system of linear inequalities that models a real world applications; interpret parts of the graph

Domain E: Quadratic Functions

- Identify quadratic functions
- Determine the effect of changing the “a” value in $y = ax^2$
- Graph quadratic functions; translate graphs by changing parameters
- Find the line of symmetry in the graph of a quadratic function
- Find the maximum and minimum in the graph of a quadratic function
- Find the y-intercept
- Simplify radicals; determine approximate roots
- Find the x-intercepts (roots or zeros of the equation) by graphing and using the quadratic formula
- Estimate, solve and describe the solution to a real-world problem that can be modeled by a quadratic function

Domain F: Exponential Functions

- Identify exponential functions
- Model exponential growth and decay
- Describe and interpret graphs
- Use law of exponents to simplify expressions

Domain G: Polynomials

- Add, subtract, multiply and divide polynomials
- Factor polynomials
- Solve equations by factoring

V. Textbook

- Algebra 2 (Prentice Hall)

VI. Supplies / Materials

- 3-ring binder
- Pencils
- Loose leaf paper
- Graph Paper
- Ruler
- Calculator

VII. Rules and Procedures

- ID badges should be worn around the neck always
- Food, gum and beverages are not allowed
- Take care of your personal needs between classes
- Arrive to class on time
- Be prepared with class supplies/materials daily
- Begin class work immediately
- Socialize only before and after class
- Respect all your peers
- Respond to questions when given permission
- Remain in your seat unless you are taking care of class business
- Participation in group activity
- Pay attention
- Follow directions

Attendance is an important aspect of your education at Gwynn Park High School. In accordance with Prince George's County Public Schools' Administrative Procedure 5113, *Pupil Attendance and Absence*, "five (5) days of unlawful absence per semester in a semester course, or ten (10) of unlawful absence per year in a full year course shall result in not grade ("N") for a course. Additionally, students will receive a zero (0) for all work done on the day of an unexcused absence and will not be given the opportunity to make up work missed because of an absence.

When absent, a student has two (2) days in which to bring in a note that excuses him/her for the absence. After that time, the absence becomes unexcused. The reason for the absence must be stated in the note. This note must be given to the first period teacher who will issue an attendance form (PA-1) to the student. This form will denote whether the absence is lawful (excused) or unlawful (unexcused). It is the student's responsibility to present this attendance to each of his/her teachers.

According to Prince George's County Public Schools' Administrative Procedure 5121.2, Assessment and Grading for All Secondary Programs, "students who are considered lawfully absent from school will have the opportunity to make up missed work in a timely fashion (a maximum of three (3) days for each day's absence). Students who fail to complete missed work in a timely fashion will receive "zero" grades for those assignments."

Approved: _____
Carletta Marrow, Principal