Math - Standard

Math - Standard Courses

Algebra, Functions, and Data Analysis

This course is designed for students who have completed Algebra 1 but need time to further develop algebraic concepts to ensure success in Algebra 2. Within the context of mathematical modeling and data analysis, students will study functions and their behaviors, inequalities, probability, experimental design, and analysis of data. Data will be generated by practical applications arising from science, business, and finance. Students will solve problems that require the formulation of linear, quadratic, or exponential equations or a system of equations.

Credits 1
Grades
10, 11, 12
Course Designation
Virtual Prince William (VPW)
Schools
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
Prerequisites
Algebra 1
Notes
A student may not receive credit for this course after receiving credit for Algebra 2.

Algebra 1

Algebra provides a systematic way to represent mathematical relationships and analyze change which will include the use of the data cycle. Students will make connections and build relationships between Algebra and arithmetic, geometry, and probability and statistics. Connections will also be made to other subject areas through practical applications. Students are required to use Algebra as a tool for representing and solving a variety of practical problems. Tables and graphs will be used to interpret Algebraic expressions, equations, and inequalities and to analyze behaviors of functions. Graphing utilities, computers, and other appropriate technology tools will be used to assist in teaching and learning. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

Credits 1
Grades
9
Course Designation
Virtual Prince William (VPW)
Schools
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School

Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
Prerequisites
Math 7 Extended *or* Math 8 (Pre-Algebra)

Algebra 1, Parts 1 and 2

Algebra 1, in two parts, is offered for students who need additional time to complete the Algebra 1 curriculum. These two courses employ an interactive, hands-on approach to teaching Algebra concepts. This two-part course uses graphing utilities, the data cycle, and real-world and workplace applications as the platform for learning Algebra. Emphasis is placed on making connections in Algebra to arithmetic, geometry, and statistics. Algebra 1, Part 1 and Algebra 1, Part 2 are each year-long classes. Schools may double block the courses so that they meet every day for a full block of time over the full year. This gives students the chance to earn the first math credit by the end of the 9th grade year in addition to an elective credit for Part 1. Schools may allow students to take Part 1 in the 9th grade year and Part 2 in the 10th grade. This course has an associated Standards of Learning (SOL) test to be taken at the conclusion of Algebra 1, Part 2. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.
Credits 1
Elective Credit for Part 1 and 1 Math Credit for Part 2 when student has passed both parts
Grades
9, 10
Schools
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gar-Field High School
Hylton High School
Independence Nontraditional
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
Prerequisites
Math 8 (Pre-Algebra)
Notes
Students with disabilities eligible for credit accommodations receive two math credits for completing both courses.

Algebra 2

All students preparing for postsecondary and Advanced technical studies are expected to achieve the Algebra 2 standards. A thorough treatment of Advanced Algebraic concepts will be provided through the study of functions, "families of functions," equations, inequalities, systems of equations and inequalities, polynomials, rational and radical equations, complex numbers, and sequences and series which will include the use of the data cycle. Emphasis will be placed on practical applications and modeling throughout the course of study. Graphing utilities, computers, spreadsheets, and other appropriate technology tools will be used to assist in teaching and learning. This course has

an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for Advanced Studies Diploma.
Credits 1
Grades
9, 10, 11, 12
Course Designation
Virtual Prince William (VPW)
Schools
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
Prerequisites
Algebra 1

Algebra 3 with Trigonometry

Algebra 3 with Trigonometry extends both Algebra and Trigonometry topics. Emphasis is on functions and their inverses, equations and inequalities, graph theory, matrices, sequences and series, conic sections, and logarithms. Trigonometry topics include triangular and circular definitions of the trig functions, trig identities, and solutions of trig equations. This course does not meet the prerequisite for Calculus AB or BC.
Credits 1
Grades
11, 12
Schools
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
Prerequisites
Algebra 2

Geometry

All students are expected to successfully complete Geometry. This course includes emphasis on two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. A variety of real-world applications and general problem-solving techniques, including Algebra skills, are used to implement these standards. Graphing utilities, computers, dynamic geometry software, and other appropriate

technology tools will be used. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

Credits 1
Grades
9, 10, 11
Course Designation
Virtual Prince William (VPW)
Schools
Battlefield High School
Brentsville District High School
Colgan High School
Forest Park High School
Freedom High School
Gainesville High School
Gar-Field High School
Hylton High School
Osbourn Park High School
Patriot High School
Potomac High School
Unity Reed High School
Woodbridge High School
Prerequisites
Algebra 1 *or* Algebra 1, Parts 1 and 2

Geometry, Parts 1 and 2

This course includes emphasis on two- and three-dimensional reasoning skills, coordinate and transformational geometry, and the use of geometric models to solve problems. A variety of real-world applications and general problem-solving techniques, including Algebra skills, are used to implement these standards. Graphing utilities, computers, dynamic geometry software, and other appropriate technology tools will be used. Geometry, in two parts, is offered for students who need additional time to complete the Geometry curriculum. Geometry, Part 1 and Geometry, Part 2 are each year-long classes. Schools may double block the courses so that they meet every day for a full block of time over a full year or offer them over two years. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.

Credits 1
Elective Credit for Part 1 and 1 Math Credit for Part 2 when student has passed both parts
Grades
11, 12
Schools
Woodbridge High School
Prerequisites
Algebra 1 *or* Algebra 1, Parts 1 and 2
Notes
Students with disabilities eligible for credit accommodations may receive two math credits for completing both courses. If they have also taken Parts 1 and 2 of Algebra 1, they would receive three math credits and one elective credit for the four parts of the two courses.