

High School Mathematics

Algebra I (1.0 Credit)

Algebra 1 introduces students to the world of Algebra through expressions and equations. Students will evaluate algebraic expressions, solve linear equations and graph them. This course also steers students through various real-world scenarios with the emphasis on using basic statistics to interpret the information given and found. Algebra 1 also provides a strong foundation in solving problems. Students will work with problems and applications that involve exponents, quadratic equations, polynomials and factoring methods, rational and radical equations, data analysis and probability. Students will interact with course materials through online lessons, videos, interactive questions and real-world applications. Each unit ends with a self-check quiz to confirm knowledge of the concepts learned. There is also a unit exam and project. Teacher feedback is given throughout the course.

Algebra II (1.0 Credit)

Algebra 2 is an advanced course in mathematics. It gives you the opportunity to further your skills in the areas of interpreting and evaluating algebraic expressions. If you are planning to go on in any science, engineering, accounting, or mathematical field, this course also provides excellent preparation. Each lesson has several activities that all contribute to an exploration of new mathematical concepts. The activities and discussions also help you think creatively and critically about each topic. You are required to keep a notebook of terms, definitions, and important work. Although you do not have to turn in this notebook, it will provide a solid review of your work during the course. Major topics covered in this course include Algebra 2 completes the studies of high school algebra and prepares students to advance to trigonometry, pre-calculus, and beyond. This course provides the opportunity for students to develop and strengthen skills to read and evaluate algebraic expressions. Topics covered include exponential and logarithmic functions, rational and radical functions, properties, and attributes of functions, conic sections, and data analysis. It also includes an introduction to probability and trigonometry. It takes a great deal of math skill to design beautiful and practical buildings, engineer fuel-efficient cars, follow the twists and turns of the economy, or recognize trends in modern medical data. In this course, students see how skills in algebra and geometry are applied to everyday life on the job. Interactive math labs allow students to develop a deeper appreciation of mathematics and to practice what they have learned. In each lesson, students have the opportunity to work through and complete several self-check activities and quizzes. In each unit, students complete the unit exam, deliver a unit project, and participate in self-reflection. Teacher feedback is provided throughout the course.

Consumer Math (1.0 Credit)

This course focuses on the mathematics involved in making wise consumer decisions. Students explore the many ways in which mathematics affects their daily lives. The first semester will cover paychecks and wages, taxes, insurance, budgets, bank accounts, credit cards, interest calculations, and comparison shopping. Second semester topics include vehicle and home purchasing, investing, and business and employee management.

Geometry (1.0 Credit)

Geometry is the study of the measurement of the world. What makes Geometry so engaging is the relationship of figures and measures to each other, and how these relationships can predict results in the world around us. Through practical applications, the student sees how geometric reasoning provides insight into everyday life. The course begins with the tools needed in Geometry. From these foundations, the student explores the measure of line segments, angles, and two-dimensional figures. Students will learn about similarity, triangles and trigonometric ratios. This course builds on the foundation terms in Geometry. Deductive and inductive reasoning are emphasized, while applying problem-solving techniques to real-world problems. Students explore quadrilaterals and circles, and learn how an object is transformed, as well as how to represent that transformation algebraically and geometrically. Students calculate area and volume of 2-dimensional and 3-dimensional objects.

Integrated Math 1 (1.0 Credit)

In Integrated Math 1, students use arithmetic properties of subsets of integers and rational, irrational and real numbers by simplifying expressions, solving linear equations and inequalities, graphing equations, finding the equation of a line, working with monomials and polynomials, and factoring and completing the square. Students use properties of the number system to judge the validity of results, justifying each step of the procedure to prove or disprove statements. Students compute perimeter, circumference, area, volume and surface area of geometric figures. Students also use basic trigonometric functions defined by the angles of a right triangle.

Integrated Math 2 (1.0 Credit)

Students in Integrated Math 2 will focus on pulling together and applying the accumulation of learning that they have acquired from their previous math courses. They will apply methods from probability and statistics; expand their repertoire of functions to include polynomial, rational, and radical functions; and expand their study of right triangle trigonometry. In addition, they will bring together all of their experience with functions and geometry to create models and solve contextual problems.

Integrated Math 3 (1.0 Credit)

Integrated Algebra and Geometry Level 3A. Students in Integrated Math III will focus on pulling together and applying the accumulation of learning that they have from their previous courses. They will apply methods from probability and statistics. Students will expand their repertoire of functions to include polynomial, rational, and radical functions. They will expand their study of right triangle trigonometry. Students will use all of their experience with functions and geometry to create models and solve contextual problems.

Pre-Algebra (1.0 Credit)

Pre-Algebra will help students move from the world of simple mathematics to the exciting world of Algebra and Geometry. They will develop skills that will be necessary throughout their life. Students will stretch their thinking by learning to solve real world problems. Learning math and algebra concepts can be fun. Abstract ideas can be challenging for many students but the challenge is one they can meet. Concepts are presented with a little humor, making the learning fun. Students will enjoy learning each new concept and develop a deeper understanding of the math skills they already have. Each concept is presented using examples of the skills, concepts, and strategies students will need. Scaffolding of ideas is provided to ensure student learning. The course is offered in a six-unit format containing 5 lessons each for a total of 30 lessons. Students will study text pages, watch videos, interact with ash presentations, and complete practice problems. The pace is controlled by the student and reviewing the material is encouraged. The course will continue to move students into the exciting world of the unknown, Algebra. Building on what they have learned in mathematics and PreAlgebra, students will expand their skills. They will be introduced to increasingly abstract concepts. The course will provide the student with a concrete understanding of the basics for algebraic thinking. With numerous hands on activities and demonstration videos, they will have multiple opportunities to enhance their process solving skills. Students will be given different assessment opportunities to demonstrate mastery of each skill. Students will study text pages, watch videos, interact with ash presentations, and complete practice problems. The pace is controlled by the student and reviewing the material is encouraged.

Pre-Calculus (1.0 Credit)

In this course, students will understand and apply concepts, graphs and applications of a variety of families of functions, including polynomial, exponential, logarithmic, logistic and trigonometric. An emphasis will be placed on use of appropriate functions to model real world situations and solve problems that arise from those situations. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph. A scientific and/or graphics calculator is recommended for work on assignments, and on examinations. Pre-Calculus also covers the major units of Introductory Trigonometry and Graphs, Trigonometric Equations and Identities, Analytical Trigonometry, Sequences and Series, Conic Sections and an Introduction to Calculus. A focus is also on graphing functions by hand and understanding and identifying the parts of a graph.