MONTFORT PREP

TEST PREP FOR SUCCESS

Montfort Learning | STEM EXCELLENCE PATHWAY
1323 Jacklin Rd., Milpitas CA 95035 | **Tel**.: (408) 684- 7001
Email: support@montfortprep.com |Website: http://www.montfortprep.com
Register: http://www.montfortprep.com/register.html

MATHEMATICS

A full year of mathematics is required for all grade levels. Students are placed in math courses according to the following criteria: math grade in previous year's course, standardized test scores, and student performance. Student placement is reviewed and adjusted when needed. Algebra meets UC and CSU a-g college admission requirements.

Elementary Math	Middle School Math	Algebra 1	Geometry	Algebra 2
CC1	CC2	GFA	CC2/GFA	GFA/Alg. 1
Math 1/A	Math 2/A	Math 3/A	Pre-Calculus	Calculus
Trigonometry	Geom./ Alg. 2/Trig	Algebra 2 Alg. 2/Trig	Pre-Calculus Honors	Integrated Math 1/2/3
Alg2/Trig/ Pre-Calc	AP Calculus AB/BC	AP Statistics / Statistics	Math 19A/B	AP Computer Science
Algebra A	Algebra B	Algebra I	Finite Math	Multi Variable Calculus

Common Core Math: Course designed to provide students with a strong mathematical foundation to meet 7th grade Common Core math standards. Areas of focus include (1) developing understanding of and applying proportional relationship; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. Successful completion of this course will prepare students for Geometry and Foundational Algebra.

Common Core Math 2/Geometry and Foundational Algebra: This the first year of a two-year program encompassing all standards from Common Core 7th grade, Common Core 8th grade, and Common Core Algebra 1. The five critical areas from these math standards are: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. It will also cover one of the three critical areas from Common Core 8th grade math standards: (5) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations.

Geometry and Foundational Algebra: Course designed to provide students with a strong mathematical foundation to meet 8th grade Common Core math standards. Areas of focus include (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationship; and (3) analyzing two- and three- dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. Successful completion of this course will prepare students for Algebra 1.

Geometry and Foundational Algebra/Algebra I: This is the second year of a two-year program encompassing all standards from Common Core 7th grade, Common Core 8th grade, and Common Core Algebra 1. It will cover six critical focus areas: (1) grasping the concept of a function and using functions to describe quantitative relationships and (2) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. Students will cover all Algebra I standards focusing on the four critical 2016-2017 FUSD Junior High Course Catalog -12- areas: (3) deepen and extend understanding of linear and exponential relationships. Students must earn a B or better both semesters to continue in this Accelerated Pathway in 9th grade. (4) contrast linear and exponential relationships with each other and engage in methods for analyzing, solving, and using quadratic functions; (5) extend the laws of exponents to square and cube roots; and (6) summarize, represent, and interpret categorical and quantitative data that exhibit a linear trend.

Algebra Readiness: Full Year 8th Grade This class is intended for students who have not yet mastered 7th grade standards in CC2 (semester grades of D or lower). This class is designed to prepare students to pass Geometry and Foundational Algebra I in ninth grade. The Algebra readiness program will target the sixteen standards students need to learn to successfully complete Algebra I.

Math Support: This course is an elective class designed for students to improve a variety of Math skills such as basic arithmetic, algebra, and geometry. Each week students will practice Math skills, organization and receive homework help.

MONTFORT PREP

TEST PREP FOR SUCCESS

Montfort Learning | STEM EXCELLENCE PATHWAY
1323 Jacklin Rd., Milpitas CA 95035 | **Tel**.: (408) 684- 7001
Email: support@montfortprep.com |Website: http://www.montfortprep.com
Register**:** http://www.montfortprep.com/register.html

Algebra A/Math 1: This course is designed for 9th grade students. The topics covered are the same as those covered in the first semester of Algebra I. They include solving linear equations and inequalities, graphing, and writing linear functions and solving systems of linear equations. Students are offered additional learning supports as they progress through the curriculum at a slower pace than Algebra I

Algebra B: The topics covered are the same as those covered in the second semester of Algebra I. They include exponential functions and sequences, polynomial equations, and factoring, graphing quadratic functions, solving quadratic equations, radical functions and equations, and data analysis and displays. Students are offered additional learning supports as they progress though the curriculum at a slower pace than Algebra I.

Algebra I/Math 1: Topics include properties of real numbers; linear equations and their graphs; relations and functions; solving and graphing equations and inequalities including those involving absolute value. Additionally, students will solve systems of equations and inequalities algebraically and graphically; use exponents and exponential functions; utilize quadratic equations and their graphs; learn polynomials and factoring; and solve rational equations and problem solving.

Algebra II/Math 2/Math 3/Trig: The key ideas of this course are writing algebraic expressions to represent problems described in words, given as diagrams, or based on data; understanding the relationships among equations, graphs, and solutions to equations; and knowing how and when to use algebraic or approximate methods to solve a variety of equations; and combinations of equations or inequalities. Other topics covered: roots, radicals, logarithms, and powers.

AP Calculus AB: Students will need a graphing calculator. This course is a study of the calculus of the elementary functions: polynomial, circular, logarithmic, and exponential. The student studies derivatives and integrals of these functions with their applications. All students enrolled in class will be expected to take the AP Exam during the month of May.

AP Calculus BC: This course is a study of the calculus of infinite series, plane curves, parameterization, polar coordinates, vectors and analytic geometry, vectors in space, vector valued functions and motion in space. All students enrolled in class will be expected to take the AP Exam during the month of May.

AP Computer Science Principles: This course offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. Students will be given the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.

AP Statistics: This course is an in-depth study of statistics for the highly motivated student. Its purpose will be to introduce the students to the major concepts and tools for collecting, analyzing, and drawing conclusions for data. Topics also included are probability, statistical inference, exploratory analysis, and planning statistical experiments.

Finite Math: This is an ideal class for students who are not ready to take calculus but want a 4th year of math to prepare for college. "Finite Math" is a catch-all title for a collection of topics that are anything but calculus. The purpose of the course is to give a survey of mathematical analysis techniques used in the working world, but you might also say that this course gives valuable experience organizing information and then analyzing it. In a larger sense, it's also another way we use math to give people experience at analytical thinking. Business, accounting, and computer majors tend to take this course, or are required to by their programs.

Geometry/Math 2: Students will need a scientific calculator, compass, and protractor. This course covers: algebra; graphing; ratios (similarity, right triangle trigonometry); properties of plane figures (area, perimeter, polygons, angles); problem solving (diagrams, tables/lists, patterns, sub problems); spatial visualization; conjecture, and explanation.

Pre-Calculus/Hons./Math 3: This course comprises the algebras of real numbers, vectors, complex numbers, and polynomials; analytic geometry-based on vector algebra; polynomial, exponential, and logarithmic functions; the circular functions and trigonometry; and elementary probability functions.

Probability & Statistics/Math 2: This course is designed to acquaint the student with elementary techniques used in statistical methods. Students will become knowledgeable about organizing, analyzing, and interpreting data. Emphasis is on descriptive statistics, elementary probability concepts, probability distributions, statistical inference, and simple linear regression analysis. Applications are drawn from many facets of daily life: business, education, natural sciences, psychology, social science, and government.