

Your path to college math readiness

4th Year HS	Intro to Statistics, College Algebra, or Pre-Calculus	AP Calculus AB or AP Calculus AB/BC	AP Statistics or Multivariable Calculus and Differential Equations		Linear Algebra or AP Statistics	
3rd Year HS	Algebra II	AP Pre-Calculus	AP Calculus AB/BC or AP Statistics		Multivariable Calculus and Differential Equations or AP Statistics	
2nd Year HS	Geometry	Honors Algebra 2	AP Pre-Calculus		AP Calculus AB/BC	
1st Year HS	Algebra 1	Honors Geometry	Honors Algebra 2	Honors Algebra 2	AP Pre-Calculus	
8th Grade	Math 8	Algebra 1		C A T S	Geometry	Algebra 2
7th Grade	Math 7	Honors Math 7			Algebra 1	Geometry

Algebra 1

This course is the first year of a standards based math curriculum. Topics include Number Sense and Data Analysis. Algebra, Geometric and Structure and Logic.

Geometry/Honors Geometry

This is the second year of a standards-based math curriculum-. Topics include: number sense using estimation strategies reasonably and fluently, Probability, Discrete math, Geometric properties, Logic, Reasoning, and Proofs.

Algebra 2/Honors Algebra 2

This course is the third year in an integrated study of mathematics. Student will model real-life situations dealing with such topics as probability, statistics, algebraic functions, geometry, and an introduction to trigonometry.

Intro to Statistics

This is a year 3 or 4 year Math class, with pre-requisites being Alg. 2 or Pre-Calc. The four major conceptual themes that will be studied are data analysis, strategies and planning, probability, and statistical inference.

AP Pre-Calculus

This is a rigorous, AP course equivalent to college Algebra and Trigonometry at the university. Topics include: functions, math modeling, exponential and logarithmic equations, discrete math, and trigonometry. Hamilton also includes topics incorporated in Calculus AB.

College Algebra

This is a year 4 math course with a pre-requisite of Algebra 2. The study of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions, systems of equations, modeling and solving real world problems

AP Statistics

This class is equivalent to a college level introductory statistics course. This course uses the College Board Syllabus and is approved for dual credit allowing students to earn 3 college credits. Statistics is the branch of mathematics that deals with the collection, organization, analysis, and interpretation of

AP Calculus AB and AB/BC

This course uses the College Board Syllabus for Calculus AB and for Calculus BC. This class is approved for dual credit and will enable students to earn two semesters of college math credit. This course prepares students for

Multivariable Calculus and Differential Equations

This course is designed for students that have completed AP Calculus BC. This curriculum covers Calculus 3 and Differential Equations (DEQ). There is no AP exam for this course but students can get four college credits for Multivariable Calculus (Calculus 3) and three credits for DEQ through dual enrollment.

Linear Algebra

This course is designed for students that have completed Multivariable Calculus and Differential Equations. Topics include independent research, theory of systems of linear equations, matrices, vector spaces, determinants and transformation.

Math

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$$a^2 + b^2 = c^2$$

$$\sqrt{9} = 3$$

$$2+2=4$$

$$\left(\sum_{k=2}^{n-1} \frac{n!}{k!(n-k)!} \right) + 1 \quad \tan^2(x) + 1 = \sec^2(x)$$

$n, k \geq 2$

$$V = \frac{4}{3} \pi r^3$$

$$\frac{dy}{dx} = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$= \lim_{h \rightarrow 0} \frac{[2x^2 + 4xh + 2h^2 + 3x + 3h] - [2x^2 + 3x]}{h}$$

$$= \lim_{h \rightarrow 0} \frac{4xh + 2h^2 + 3h}{h}$$

$$= \lim_{h \rightarrow 0} 4x + 2h + 3$$

$$= 4x + 3$$

$$\sin(-x) = -\sin(x)$$

$$|-x| = x$$

$$\sin(3\pi)$$

A train leaves the station at 6pm traveling west at 80 mi/h. On a parallel track, a second train leaves the station 3 hours later traveling west at 100mi/h. At what time will the second train catch up with the first?

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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