Mathematics

The Mathematics Department recognizes the need to teach as Jesus did in all areas of education, including mathematics. We accept students where they are and bring them to the point where they can appreciate and be proficient in the mathematics they will need in their careers and personal lives. We strive to provide experiences that encourage and enable students to "value mathematics, have confidence in their mathematical ability, become mathematical problem solvers, and communicate and reason mathematically". (NCTM Standards)

ALGEBRA 1, Part 1   Credit 1.00   Level 1
This two-year course is for students who need more time to cover the traditional Algebra 1 topics. It covers all subjects from the Algebra 1 curriculum but at a slower pace.

ALGEBRA 1, Part 2   Credit 1.00   Level 1
Continuation of Algebra 1, Part 1.
Prerequisite: *Algebra 1, Part 1*

ALGEBRA 1   Credit 1.00   Level 2
This course provides students with a logical understanding of the real number system. It deals with the four operations on real numbers and their use in solving equations with polynomials, factoring, fractions, inequalities, radicals, graphing, systems of linear equations and functions.

HONORS ALGEBRA 1   Credit 1.00   Level 3
This course reviews operations with real numbers. Topics include solving equations, inequalities and systems of equations; graphing; adding, subtracting, multiplying and factoring polynomials; simplifying, multiplying, dividing, adding and subtracting rational expressions; solving rational equations; simplifying, adding and subtracting radicals.

GEOMETRY   Credit 1.00   Level 2
This course is designed with the average mathematics student in mind. Geometry deals with points, lines, planes, angles, triangles, polygons, circles, areas, and volumes.
Prerequisite: *Algebra 1*

HONORS GEOMETRY   Credit 1.00   Level 3
While traditional plane and solid Euclidean geometry form the core of this course, the course differs from the Geometry course by including a survey of non-Euclidean geometries, such as graph theory, discrete, and coordinate geometry. This course also approaches the traditional topics from the viewpoint of transformational geometry, where reflections, rotations, and translations provide the incentive for congruence and similarity. Included in the course is an introduction to the trigonometry of triangles.
Prerequisites: *Minimum 85% average in Honors Algebra 1 or 95% in Algebra 1 and present teacher approval.*

ALGEBRA 2   **Credit 1.00**   **Level 2**

Throughout this course the average student of mathematics should develop a better understanding of algebraic concepts and skills. A review of the essentials of Algebra 1 is first considered in this course. The following topics are then studied: linear and quadratic equations; inequalities and systems with related graphing; rational, irrational and complex numbers; linear and quadratic relations, functions and variations; and all types of factoring.
Prerequisite: *Geometry, Algebra 1 and present teacher approval.*

HONORS ALGEBRA 2/TRIGONOMETRY   **Credit 1.00**   **Level 3**

This course includes all topics in the Algebra 2 curriculum as well as a complete study of trigonometry. Time is spent on circular functions, identities, the trigonometry of triangles, and the inverse functions as well as the graphs of the functions. TI83 PLUS calculator is required.
Prerequisite: *Minimum 85% average in Honors Algebra 1 and Summer Geometry; or minimum 85% in Honors Algebra 1 and Honors Geometry; or minimum 95% in Algebra 1 and Geometry and present teacher approval.*

ADVANCED PLACEMENT STATISTICS   **Credit 1.00**   **Level 4**

The topics for this course are: exploratory analysis, planning a study, probability and statistical inference. Important components of the course include the use of technology, projects, group problem solving and writing. Advanced Placement Test is a requirement.
Prerequisite: *Minimum 90% average in Honors Introduction to Calculus or minimum 95% in Algebra 2 or CPM and recommendation of English teacher.*

STATISTICS   **Credit 1.00**   **Level 2**

Statistics deals with the collection, analysis, interpretation and presentation of numerical data. It includes descriptive statistics, probability, discrete and continuous distributions, methods of sampling, and inferential statistics. This course is designed to prepare a student for a college statistics course. TI83 PLUS calculator is required.
Prerequisite: *Minimum 85% average in Algebra 2 or minimum 75% in Honors Algebra 2 and Trigonometry and present teacher approval.*

COLLEGE PREP MATH   **Credit 0.50**   **Level 2**

This is a one-semester course, designed for the college prep student, in preparation for a college algebra course. It offers a brief review and a more in-depth study of algebra topics as well as selected topics in probability, statistics, data analysis, sequences and series, matrices, linear programming and exponential and logarithmic functions.
Prerequisite: *Minimum 75% average in Honors Algebra 2 and Trigonometry or minimum 85% in Algebra 2 and present teacher approval.*
Second Semester; Opposite "Trigonometry"

TRIGONOMETRY   **Credit 0.50**   **Level 2**

This one-semester course is a study of the circular and trigonometric functions, their graphs and applications of these functions.
Prerequisite: *Minimum 85% average in Algebra 2 and present teacher approval.*
First Semester; Opposite "College Prep Math"

HONORS INTRODUCTION TO CALCULUS   Credit 1.00   Level 3

This pre-calculus course includes analytic geometry, function theory, polynomial, exponential and logarithmic functions, vectors, determinants, and topics in probability and statistics.
Prerequisite: *Minimum 85% average in Honors Algebra 2 and Trigonometry or minimum 80% average in CPM/Trig and present teacher approval.*

ADVANCED PLACEMENT CALCULUS (AB)   Credit 1.00   Level 4

This advanced placement course includes the major theorems of differential and integral calculus, a consideration of continuity, and the calculus techniques necessary for solving extreme value, related rate, area, volume, and surface area problems involving algebraic, trigonometric, and exponential functions. The course covers work in the first semester and a half of college calculus.
Prerequisite: *Minimum 80% average in Honors Introduction to Calculus and present teacher approval.*

ADVANCED PLACEMENT CALCULUS (BC)   Credit 1.00   Level 4

This course is designed to prepare students for taking the BC Calculus examination. This examination covers two semesters of college calculus. A qualifying grade on the BC examination will allow a student to receive credit for a full year of college calculus. This course is designed for students who have done exceptional work in Introduction to Calculus. These students will be scheduled for a full year of BC Calculus. The course is also designed for students who have already taken the AB Calculus course. These students will take this course only in the second semester. The first semester of the course will cover the A and B topics of the curriculum. The second semester will cover the C topics of the curriculum.
Prerequisite: *Minimum 85% average in Honors Introduction to Calculus and present teacher approval.*