

Mathematics Courses

Ninth grade math placement for Pre-Algebra, Algebra A, Algebra, Geometry, and Geometry Honors is determined by District placement criteria.

Pre-Algebra 40000

Semesters: 2 1 Credit
 Grade Placement: 9,10,11,12
 Course fee required

This course is designed to serve as a course in algebraic and geometric principles to prepare for the more difficult, traditional course in Algebra, or to progress to the 2-year Algebra A/B courses.

Pre-Algebra Support 40050

Semesters: 2 1 Credit
 Grade Placement: 9,10,11,12 Elective
 Prerequisite: Concurrent enrollment in Pre-Algebra and departmental recommendation

Students in need of additional support in Pre-Algebra will concurrently enroll in Pre-Algebra Support. This course will provide students with additional practice and review of course content and math skills. This course may be used for elective credit only. It will not be applied toward the mathematics requirement for graduation.

Algebra A 40100

Semesters: 2 1 Credit
 Grade Placement: 9,10,11,12
 Prerequisites: Successful completion of Pre-Algebra
 Course fee required

This course is designed to prepare the student for Algebra B. The combined Algebra A/B series will address all concepts and skills of the one-year Algebra course. In the Algebra A course, students learn about linear functions, equations, inequalities, problem solving, and factoring.

Algebra B 40200

Semesters: 2 1 Credit
 Grade Placement: 10,11,12
 Prerequisite: Successful completion of Algebra A
 Course fee required

This course is designed to prepare the student for Geometry by continuing the curriculum from Algebra A. The combined Algebra A/B series will address all concepts and skills of the one-year Algebra course. In the Algebra B course, there is additional emphasis on quadratic equations, algebraic fractions, functions, radical expressions, systems of equations, and problem solving.

Algebra I 40300

Semesters: 2 1 Credit
 Grade Placement: 9,10,11,12
 Prerequisites: Successful completion of Pre-Algebra
 Course fee required

The course will consist of development of the real number system, algebraic properties, equations and inequalities. Students will be introduced to verbal problems, systems of linear equations, factoring, quadratic equations, algebraic fractions, and functions.

Geometry 40400

Semesters: 2 1 Credit
 Grade Placement: 9,10,11,12
 Prerequisites: Successful completion of Algebra B or Algebra I

This course is a comprehensive study of the fundamental concepts of geometry. Topics include parallel and perpendicular lines, polygons, congruent and similar figures, coordinate geometry, geometric inequalities, circles, transformations, surface area, and volume. Emphasis is given to problem solving through use of logic and deductive reasoning with some writing of formal proofs. Algebraic techniques are integrated into the solution of many geometric problems. The course covers

important geometry for the study of later mathematics and fulfills the geometry requirement for entrance to colleges.

Geometry Honors 40450

Semesters: 2 1 Credit
 Grade Placement: 9,10
 Prerequisite: "A" in Algebra I or teacher recommendation

This accelerated course is a rigorous approach to the study of concepts in geometry. In addition to in-depth coverage of the topics listed above, special emphasis will be given to the nature of a mathematical system, logic and proof.

Advanced Algebra 40500

Semesters: 2 1 Credit
 Grade Placement: 9,10,11,12
 Prerequisites: Successful completion of Algebra B or Algebra I and Geometry

Advanced Algebra extends the concepts and skills developed in Algebra. Extensive work is done with polynomials and radicals. Matrices and complex numbers are introduced. The recognition and graphing of first and second degree equations are included. The second semester will include work in Trigonometry, logarithmic functions, and probability may be introduced. Students should have either a scientific or graphic calculator for this class.

Pre-Calculus 41100

Semesters: 2 1 Credit
 Grade Placement: 10,11,12
 Prerequisites: Successful completion of Advanced Algebra

Major emphasis is the examination of the number systems of elementary mathematics and the study of elementary, trigonometric, and circular functions. Basic content comprises the Algebra of real numbers, polynomials, analytic geometry, exponential, and logarithmic functions. Attention is given to the understanding of concepts and to the refinement of manipulative skills. A graphic calculator will be used in the course. If students choose to purchase a calculator, they should see the instructor for an approved list.

Calculus (Advanced Placement) 41500

Semesters: 2 1 Credit
 Grade Placement: 11,12 Elective
 Prerequisites: Successful completion of Pre-Calculus. Note that an Advanced Placement exam fee of approximately \$85.00 is due in semester 2 for students choosing to take the AP tests.

The course contains both differential and integral calculus. The first part of the course includes work with limits, derivatives, and their applications, while integral calculus involves integration of polynomial functions and trigonometric functions. Polar functions, analytic geometry, Taylor Series will also be studied when time permits. The course will enable students to take the Advanced Placement exam administered by the College Board in May. A graphic calculator will be used in the course and on the Advanced Placement exam. Before purchasing a calculator, students should see the instructor for the list of calculators approved by the College Board.