MATHEMATICS DEPARTMENT

ALGEBRA 1 (10th - 12th Graders)
The algebra skills and concepts are taught at a pace to allow for adequate time and practice on each concept. Topics and concepts include: slope and slope-intercept form, solving systems of linear equations, factoring quadratics, zero product property, Pythagorean Theorem, Quadratic Formula, exponents, rational expressions, completing the square, substitution, multiplying binomials, graphing lines and parabolas, order of operations, distributive property, ratio and proportion problems, and writing and solving equations.

ALGEBRA 1A / 1B (10th - 12th Graders)
Prerequisite: IEP/SST team placement
This 2-year course covers all topics covered in Algebra 1. Semester 1 is taught in year 1, while semester 2 is taught in year 2. Completing this 2-year course sequence counts towards 2 years of math for graduation requirements and fulfills 1 year of a-g UC college prep math.

ALGEBRA 2
Prerequisite: A grade of "C" or better in Algebra 1 and Geometry.
A course extending the topics covered in Algebra 1 and Geometry, including linear and quadratic equations and functions, polynomials, analytic geometry, exponential and logarithmic functions, sequences and series, statistics and probability, and introduction to trigonometry. Upon successful completion of this course, the student will understand algebra as the study of the structure of both the real and complex number systems and be able to apply algebraic techniques to solving problems in other fields of study. Student ownership of a graphing calculator is recommended.

GEOMETRY
Students will be introduced to fundamental algebra concepts including writing and solving equations, graphing linear equations, inequalities and quadratics, and solving proportions. Geometry emphasis will include vocabulary through constructions, congruent and similar polygons, properties of parallel and perpendicular lines, trigonometric properties of right triangles, properties of circles, transformations, are and volume relationships, and proofs.

ACCELERATED GEOMETRY
Prerequisite: A or B in 8th grade math course & teacher recommendation OR completion of Algebra 1 at another high school

Students will master fundamental algebra concepts including writing and solving equations, graphing and solving linear equations, inequalities and quadratics. Students passing this course will have the tools necessary to be successful in Algebra 2. Geometry emphasis will include vocabulary through constructions, congruent and similar polygons, properties of parallel and perpendicular lines, trigonometric properties of right triangles, properties of circles, transformations, are and volume relationships, and proofs.

SURVEY OF MATHEMATICS (11th and 12th Graders)
Prerequisite: A grade of "C" or better in Algebra 1 and Geometry or teacher approval

This is an elective math course for juniors and seniors. This course will review key components of the Algebra 1 and Geometry curriculums, in addition to exploring content from the Algebra 2 and Statistics curriculums. Students completing this course will be better prepared for success on the standardized tests that they must complete in order to earn a high school diploma and enter college at the community college or university level. These tests include the California High School Exit Exam (CAHSEE), the California state standards test, the college Entry Level Math assessment (ELM), and the SAT exam. This course meets one year of the high school graduation requirements but DOES NOT meet UC or CSU math requirements. Priority for this class will be given to seniors first, then juniors.

PRECALCULUS (H)
Prerequisite: A grade of "B" or better in Algebra 2.

This course covers the study of polynomials and trigonometric functions, their inverses, graphs and applications. Also included are topics such as complex numbers, matrices, infinite series, coordinated geometry and conic sections, radicals, polar functions and graphs. Upon successful completion of this course, the student will understand the properties of periodic functions and their role in mathematics, have acquired facility in applying mathematical processes, recognize and appreciate the areas of applications of functions to business, industry, science, sports, sociology, and many other disciplines. Student ownership of a graphing calculator is essential.

STATISTICS/PROBABILITY (H)
Prerequisite: A grade of "B" or higher in Algebra 2 or a grade of "C" or higher in Pre-Calculus.

In addition students should come in with understanding of the following topics:1) Setting up and solving word problems, 2) identifying slopes from graphs, 3) Word problems and equations, strong ability to interpret and comprehend all levels of word problems and 4) Ability to use a graphing calculator, 5) Own a graphing calculator.

CALCULUS AB (AP)
Prerequisite: A grade of "B" or better in precalculus or instructor's permission.

This is a one-year course in introductory calculus with elementary functions. Students will make an in-depth study of functions and graphs, limits and continuity, differential calculus and integral calculus. All students are expected to participate in the AP examination in May. Most institutions offer a semester credit in calculus for a score of 3 or better on the AP exam.

FINANCIAL MANAGEMENT   (11th and 12th Graders)
Financial Management teaches financial aspects of career planning, money management, consumer rights and responsibilities, decision making, banking services, credit management, real estate, investments, insurance and tax aspects of financial decisions. The activities in the course include real life projects that teach skills necessary to analyze finances and to apply math when making financial decisions.