MATHEMATICS DEPARTMENT

Title: ***ALGEBRA 1***
Grade Level: 9, 10, 11, 12 **Credit:** One **Length of Course:** One year
Prerequisite: Eighth grade mathematics teacher recommendation.
Content: Algebra 1 is critical to all students. This course is required for gainful employment in most careers in the twenty-first century and for post-secondary education, including vocational training, community college, or four year college. Problem solving, solving equations, and graphing linear equations are primary topics. Course integrates technology with graphing calculators and spreadsheets.
Activities: Lecture, small group instruction, and the use of graphing calculators is introduced.
Independent reading is required.
Out of Class Time Required: A minimum of two to three hours per week.
Evaluation: Performance on homework, quizzes, and chapter tests

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Title: ALGEBRA 1 BLOCK
Grade Level: 9 **Credit:** One credit for Alg & One credit for Alg Study Skills
Length of Course: One year
Prerequisite: Eighth grade mathematics teacher recommendation.
Content: The content is the same as Algebra I, but the course will meet two hours per day so that the student who needs extra time and help to master the content of algebra I has ample opportunity to do so.
Activities: Lectures, small group instruction, and guided practice.
Out of Class Time Required: A minimum of two to three hours per week.
Evaluation: Performance on homework, quizzes, and tests.

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Title: ***ACCELERATED ALGEBRA 2***
Grade Level: 10 **Credit:** One **Length of Course:** One year
Prerequisite: Accelerated Geometry or teacher recommendation
Content: This Algebra 2 course sequentially follows Algebra 1 and Accelerated Geometry. The structure of algebra is reinforced and methods to increase student understanding of mathematical concepts are introduced. Students will move toward more independent learning. This is accomplished by the students reading and using the textbook. This course integrates technology as a problem-solving tool. Specifically, graphing calculators are used almost daily. Topics of supplemental nature are used according to the interests of the

students and the time available without hindrance to the topics needed for the following courses. The student will be expected to do all assignments in order to master Algebra 2.

Activities: Teacher and/or fellow students leading discussions to gain mathematical knowledge.

Out of Class Time Required: Minimum of five hours per week

Evaluation: Performance on tests and quizzes

Recommended Technology: TI-83Plus or TI-84 Graphing Calculator

Title: ***ALGEBRA 2***

Grade Level: 11,12 **Credit:** One **Length of Course:** One year

Prerequisite: Algebra 1, Geometry

Content: Algebra 2 is a course sequentially following Algebra 1 and can be followed by Algebra 3 and Trigonometry. The most common sequence is Algebra 1, Geometry, and Algebra 2. The structure of algebra is reinforced and methods to increase student understanding of mathematical concepts are introduced. Topics are presented by the teacher using lecture and examples. The student will be expected to do all assignments in order to master Algebra 2.

Activities: Lectures, small group discussions, and graphing calculator skill-building activities.

Out of Class Time Required: Minimum of five hours per week.

Evaluation: Performance on tests, quizzes, and homework

Recommended Technology: TI-83Plus or TI-84 Graphing Calculator

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Title: ***GEOMETRY***

Grade Level: 10, 11, 12 **Credit:** One **Length of Course:** One year

Prerequisite: Algebra 1

Content: This course satisfies college requirements for high school geometry. Standard
plane geometry topics including points, lines, planes, parallelism, perpendicularity, two column
and paragraph proofs, circles, quadrilaterals, congruency, similarity, areas, and volumes.

Activities: **Lectures, small group discussions, individualized instruction**

Out of Class Time Required: Three to four hours per week

Evaluation: Performance on tests and homework and projects

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Title: ***ACCELERATED GEOMETRY***
Grade Level: 9 **Credit:** One **Length of Course:** One year
Prerequisite: Algebra 1 & teacher recommendation.
Content: This course is designed for our more advanced math students at the ninth grade level. Plane figures and their properties are studied deductively using formal logic and inductively using dynamic geometry software. This course has a heavy emphasis on proof.
Activities: Lectures, small group discussions, individualized instruction
Out of Class Time Required: Four to five hours per week
Evaluation: Performance on tests

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Title: ***ALGEBRA 3 AND TRIGONOMETRY***
Grade Level: 12 **Credit:** One **Length of Course:** One year
Prerequisite: Algebra 2
Content: This course is designed for college bound students who have successfully completed Algebra 1, Geometry, and Algebra 2. The main emphasis is on trigonometry, with assorted topics in Algebra 3 and the use of the graphics calculator also introduced.
Activities: Lectures and small group discussions
Out of Class Time Required: Minimum five hours per week
Evaluation: Performance on tests, quizzes, and homework
Recommended Technology: TI-83Plus or TI-84 Graphing Calculator

Title: ***PRE-CALCULUS / TRIGONOMETRY***
Grade Level: 11 **Credit:** One **Length of Course:** One year
Prerequisite: Algebra 2
Content: This course is designed as a junior level math course for college-bound students. Topics in discrete mathematics and trigonometry are discussed. Extensive work beyond the text is required. Familiarity with various computer software is helpful. A graphing calculator is needed for this course.
Activities: Lectures & small group discussions.
Out of Class Time Required: Minimum of five hours per week.
Evaluation: Tests, projects, and quizzes
Recommended Technology: TI-83Plus or TI-84 Graphing Calculator

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Title: ***ADVANCED PLACEMENT CALCULUS***
Grade Level: 12 **Credit:** One (weighted) **Length of Course:** One year
Prerequisite: Pre-Calculus

Content: This class is a lecture-discussion type class containing Differential and Integral Calculus. Both theory and practical applications are included. Graphing of higher order functions and mathematical reasoning in three spaces is required. Prerequisites are four years of mathematics including algebra, geometry, theory of equations, logarithmic functions, polar equations, and trigonometry functions. Students may be granted college credit depending on the score they receive on the AP exam given in the spring and the policy of the university in which they enroll.
Activities: Lectures, projects, and small group discussions.
Out of Class Time Required: Minimum of ten hours per week
Evaluation: Tests, projects, and quizzes
Recommended Technology: TI-83Plus or TI-84 Graphing Calculator

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Title: ***ADVANCED PLACEMENT STATISTICS***
Grade Level: 12 **Credit:** One **Length of Course:** One year
Prerequisite: Grade of "C" or above in Algebra II/Teacher Recommendation
Content: Statistics is designed as an alternative to Algebra III/Trig for the college bound senior. This course will provide the senior student with a firm understanding of statistics including but not limited to data description techniques, frequency distributions, normal distributions, confidence intervals, and hypothesis testing. The graphing calculator is essential for mastery of these concepts. This course will prepare students for the AP Statistics examination.
Activities: Lectures, small group discussions, and projects.
Out of class time required: Minimum of five hours per week.
Evaluation: Performance on tests, quizzes, homework and projects.
Recommended Technology: TI-83plus or TI-84 graphing calculator.