COURSE DESCRIPTIONS

MATHEMATICS

Algebra I A
Recommended for Grades 9
Year Long
1 Credit
This course covers the idea of function families and their characteristics. The course will consider key features of the different families through a study of tables, graphs, equations and story problems. Function families will include linear, absolute value, quadratic, and polynomial. The course will also look at inverses and systems related to these families.

Algebra I B
Recommended for Grades 10
Year Long
1 Credit
This course will continue the idea of families of functions and their characteristics, this time focusing on exponential and power functions. The course will also cover exponent rules including integer and rational exponents and radicals. The course will connect to Algebra IA through a study of sequences and series. The course will also contain all statistics and probability CCSS.

Algebra II A
Prerequisite Algebra I, teacher recommendation required
Recommended for Grades 11
Year Long
1 Credit
This course is the third year of the Algebra sequence and will complete the CCSS required for Algebra I and II in the state of Michigan. The course will review all function families through a study of piece-wise defined functions. The course will study two new families of functions: logarithms and rational functions. The will finish the year with connections to Pre-Calculus and college math through the study of conic sections and trigonometry.

Algebra I
Recommended for Grades 10-12
Year Long
1 Credit
Algebra I is the study of linear, absolute value, quadratic and exponential functions and inequalities. For each family of functions there will be a study of graphs and equations as well as a connection between the different representations and their connection to real-world situations. The study of linear and exponential functions will also be connected to arithmetic and geometric sequences. The class also looks at systems of all types of these equations.

Algebra II and Statistics
Prerequisite Algebra I
Recommended for Grades 10-12
Year Long
1 Credit
Algebra II is a continuation of Algebra I. It takes the same family of functions approach by studying graphs, equations, real-world situations and connection different representations. It looks at polynomials, exponentials, logarithms, and rational functions as well as conic sections and a continued look at sequences and series. One marking period of this class will be dedicated to the study of probability and statistics. This will cover all probability and statistics standards for the high school common core.

Honors Algebra II

Prerequisite teacher recommendation open to students who excel in Algebra I & Geometry
Recommended for Grades 10-12
Year Long
1 Credit

Honors Algebra II will build on concepts taught in Algebra I and Geometry while adding new concepts to the student's repertoire of mathematics. Continuing the study of exponential and logarithmic functions and further enlarge the catalog of function families to include rational and trigonometric functions. The primary strands of context expectation include quantitative literacy and logic, algebra and functions, geometry and trigonometry, and statistics and probability.

Geometry

Prerequisite Algebra I
Recommended for Grades: 9-12
Year Long
1 Credit

This course in basic geometry is designed to give the student a better understanding of a logical mathematical system. The course is developed allowing students to use algebra skills already learned. The primary focus will be towards mastering the Michigan Geometry Content Standards.

Honors Geometry

Prerequisite Algebra I
Open to students who have excelled in Algebra I with teacher recommendation or those who receive 90% or above on the Geometry Placement Test
Year Long
1 Credit

This course in Euclidean geometry is designed to give the student a better understanding of a logical mathematical system. Using algebra skills already learned students will be challenged with assignments, projects, and thought producing challenges. In addition to the Michigan Content Standards topics include inductive and deductive thinking, logic, polygons, congruence, similarity, circles, parallelism, and an introduction to right triangle trigonometry.

Pre-Calculus

Prerequisite Algebra I, II & Geometry
Recommended for Grades: 11-12
Year Long
1 Credit

This is an advance course covering coordinate geometry, polynomials, exponents and logarithms, and a comprehensive coverage of trigonometry. Other topics include statistics and probability. This course is designed to prepare the student for college-level mathematics and AP Calculus in particular. A graphing calculator is recommended.

Advanced Placement Calculus

Prerequisite Algebra I, Algebra II, Geometry, and Pre-Calculus
***May receive Baker College credit under dual enrollment for grade "C" or better**
Recommended for Grades: 12
Year Long
1 Credit

AP Calculus AB is the study of limits, derivatives and integrals. I t covers basic computations as well as problem solving and technology use. It includes all College Board required topics and culminates with the AP test given in May of each year. For a complete syllabus, see the AP Calculus teacher.