Mathematics

Algebra I-306100
Grade Level: 9-10   **Credit: 1**
Description: This area of study will use algebraic concepts so the student can represent situations using variable quantities with expressions, equations and inequalities. Algebraic generalizations and concepts at an abstract level are introduced. Skills are developed in solving equations, graphing, factoring and using algebraic methods as a problem-solving tool.

Algebra I Support-306000
Grade Level: 9-10   **Credit: 1**
Description: This course provides an intervention for those students who find themselves challenged in the algebraic process. It will be scheduled alongside the required Algebra I class to help insure success.

Honors Algebra I-3061H0
Grade Level: 9-10   **Credit: 1**
Pre-Requisite: *Teacher Recommendation Required.*
Description: This class offers the same curriculum as regular Algebra I classes, but it is designed for higher-achieving students and covers additional topics and some topics in greater depth at a faster pace.

Geometry-306200
Grade Level: 9-11   **Credit: 1**
Pre-Requisite: *Algebra I*
Description: This class introduces the fundamental and advanced concepts of plane geometry and the related topics in three-dimensional geometry, coordinate geometry, and transformational geometry. The course begins with necessary vocabulary and proceeds with algebraic and geometric proofs based on an axiomatic system. Applications of the theorems are included to help students grasp an understanding of how geometry applies in different careers and everyday life.

Honors Geometry-30620H
Grade Level: 9-11   **Credit: 1**
Pre-Requisite: *Algebra I, Teacher Recommendation Required.*
Description: This class offers the same curriculum as regular Geometry classes, but it is designed for higher-achieving students and covers additional topics and some topics in greater depth at a faster pace.

Algebra II-306300
Grade Level: 10-11   **Credit: 1**
Pre-Requisite: *Algebra I*
Description: This area of study is an extension of Algebra I with emphasis on understanding and use of algebraic structures and techniques. Emphasis will be placed on linear and quadratic equations, functions, relations, polynomials and factoring, rational expressions, radicals, inequalities, absolute value, complex numbers, and other algebraic topics.

Honors Algebra II-30630H
Grade Level: 10-11   **Credit: 1**
Pre-Requisite: *Geometry. Teacher Recommendation Required.*
Description: This class offers the same curriculum as regular Algebra II classes, but it is designed for higher-achieving students and covers additional topics and some topics in greater depth at a faster pace.

Trig/Pre-Calculus-306400
Grade Level: 10-11   **Credit: 1**
Pre-Requisite: *Geometry, Algebra II, Teacher Recommendation; these courses must be taken together.*
Description: This is a rigorous class designed for mathematically oriented students who have done well in previous math courses. The course combines the disciplines of trigonometry (the connections between right triangle and circular functions; trigonometric equations, identities and graphs; polar coordinate graphing; applications, etc.) with

the extended exploration of higher order functions and equations. The primary goal of this course is to provide each student with a solid preparation for a calculus course. Students use investigative technology (particularly graphing utilities) extensively.

Honors Trig/Pre-Calculus-30640H
Grade Level: 10-11   **Credit: 1**
Pre-Requisite: *Geometry, Algebra II, Teacher Recommendation Required.*
Description: This class offers the same curriculum as regular Trig/Pre-Calculus classes, but it is designed for higher-achieving students and covers additional topics and some topics in greater depth at a faster pace.

Honors Calculus-31440H
Grade Level: 11-12   **Credit: 1**
Pre-Requisite: *Trig/Pre-Calculus, Teacher Recommendation Required*
Description: This class is designed to be an initial exposure to calculus for students who intend to pursue some upper level mathematics in college. It is expected that students enrolled in this course have mastered the concepts of secondary trigonometry and pre-calculus. Most of the year is devoted to the topics of differential and integral calculus, though some time is spent exploring elementary and high-level functions. Graphing utilities will allow students to visualize, investigate, and better understand all concepts involved in this course.

AP Calculus AB-30310H
Grade Level: 11-12   **Credit: 1**
Pre-Requisite: *Trig/Pre-Calculus or Calculus, Teacher Recommendation Required.*
Description: AP Calculus AB is a rigorous course which encompasses essential pre-calculus concepts as well as differential and integral calculus. The student will use technological and analytical approaches in his/her study of the course. This course prepares the students to take the College Board's Advanced Placement Examination in May, which is also a requirement of this program. Upon successful completion of the exam, AP Calculus AB is the equivalent to one semester of college credit (four hours).

Advanced Mathematical Model-302500
Grade level: 12   **Credit: 1**
Pre-Requisite: *3 math credits*
Description: Students continue to build upon their algebra and geometry foundations and expand their understanding through further mathematical experiences. The primary focal points of Advanced Mathematical Modeling include the analysis of information using statistical methods and probability, modeling change and mathematical relationships, mathematical decision making in finance, and spatial and geometric modeling for decision-making. Students learn to become critical consumers of the quantitative data that surround them every day, knowledgeable decision makers who use logical reasoning and mathematical thinkers who can use their quantitative skills to solve problems related to a wide range of situations. As they solve problems in various applied situations, they develop critical skills for success in college and careers, including investigation, research, collaboration and both written and oral communication of their work. As students work with these topics, they continually rely on mathematical processes, including problem-solving techniques, appropriate mathematical language and communication skills, connections within and outside mathematics and reasoning. Students also use multiple representations, technology, applications and modeling and numerical fluency in problem-solving contexts.

Transition Math for Seniors-305200
Grade Level: 12   **Credit: 1**
Pre-Requisite: *3 math credits*
Description: Transition Math is for seniors and prepares students for their entry-level credit-bearing liberal studies mathematics course at the post-secondary level. This course will solidify their quantitative literacy by enhancing numeracy and problem solving skills as they investigate and use the fundamental concepts of algebra, geometry, and introducing trigonometry.

AP Statistics-30330H
Grade Level: 12   **Credit: 1**
Pre-Requisite: *Algebra II*

Description: The AP Statistics course is equivalent to a one-semester, introductory, non-calculus-based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes in the AP Statistics course: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding.