Secondary Mathematics Course Description

Common Core Algebra I

CC Algebra I content is centered on the mathematical conceptual categories of Number and Quantity, Algebra, Functions, Modeling, Geometry, and Statistics & Probability. Instruction in these domains and conceptual categories is to expose students to experiences which reflect the value of mathematics, to enhance students' confidence in their ability to do mathematics, and to help students communicate and reason mathematically. Instructional techniques will incorporate the mathematical practices as outlined in the CC documents. Students in CC Alg I will be required to take and "pass" the Subject Area Test 3 (SATP3).

This course is designed for incoming freshmen that have not taken the CC Algebra I or the Algebra I as identified by the Mississippi Revised Framework 2007.

Common Core Geometry

CC Geometry content is centered on the attributes and the relationships of geometric objects. Students will formalize their geometric ideas into formal proofs. Rigid motions are used to develop geometric concepts that include congruence and similarity. A study of trigonometric functions along with right triangle and non-right triangle studies are completed through hands-on and discovery techniques. Again, the mathematical practices will be utilized as outlined in the CC documents.

This course will be offered for students that have passed the CC Algebra I or the Algebra I MS Revised Framework.

Common Core Algebra II

CC Algebra II content is centered on the mathematical conceptual categories of Number and Quantity, Algebra, Functions, Modeling, Geometry, and Statistics & Probability. Content will extend and scaffold the CC Algebra I content creating coherence and rigor for students in CC Algebra II. Fluency of CC Algebra I topics are expected for students to successfully complete CC Algebra II. Instructional techniques will incorporate the mathematical practices as outlined in the CC documents.

This course will be offered after students complete CC Algebra I and CC Geometry and is required for admission to a four year college straight from high school.

Common Core Advanced Math Plus

This course completes the high school Algebra standards from the Common Core document. The standards are considered advanced and are vital to courses that utilize upper level mathematics and science. Students will study and apply Trigonometry and Advanced Algebra concepts. Concepts learned in the Plus class will be valuable to courses such as Physics and Calculus.

This course will be offered after students complete CC Algebra II.

SREB Math College and Career Ready Course

This course emphasizes understanding of math concepts rather than just memorizing procedures. SREB students learn the context behind the procedure: why to use a certain formula or method to solve a problem, for example. This equips them with higher-order thinking to apply math skills, functions and concepts in different situations. The course prepares students for college-level math assignments based on the content in eight units: exponentials, quadratics, equations, measurements, number operations, and systems, linear functions, and statistics.

This course is recommended to be taken after CC Algebra II but can be used as a fourth math credit in place of CC Algebra II.

Calculus

Calculus covers differentiation and its applications. The content includes, but is not limited to, limits and rates of change, continuity, derivatives, derivative rules, higher derivatives, implicit differentiation, applications of differentiation, and antiderivatives. Our goals are to enable students to understand the concepts and rules of differentiation, learn different techniques for finding derivatives, and develop problem solving skills. Students should also be able to write and evaluate definite integrals that represent plane area, volume, arc length, and surface area.

Students should have already completed math courses through CC Advanced Math Plus.

AP Calculus AB

This course is equivalent to a first-year college Calculus I class and the first half of Calculus II. It is designed to prepare students for the AP Calculus AB Exam. The course follows an AP-approved syllabus and students passing the exam may receive college credit. Students will use exploring, modeling, communication and technology to study functions represented in a variety of ways and make connections among these representations. Students will understand and use derivatives to solve many types of problems. Students will make the connections between the derivative and the definite integral.

Students should have already completed math courses through CC Advanced Math Plus.

Dual Credit College Algebra

Dual credit classes are offered through Itawamba Community College. For a fee of $100, a student will take College Algebra either online or with an instructor on the high school campus and receive 1 high school Carnegie unit and 3 semester mathematics hours. Students will supplement their work with work from CC Algebra II. This course includes inequalities, functions, linear and quadratic equations, circles and their graphs, applications, polynomial and rational functions, logarithmic and exponential functions and systems of equations.

Students enrolling in dual credit College Algebra should have two years of high school CC Algebra and an ACT math sub-score of 19 or higher.

Dual Credit Calculus

Dual credit classes are offered through Itawamba Community College. For a fee of $100, a student will take College Calculus either online or with an instructor on the high school campus and receive 1 high school Carnegie unit and 3 semester mathematics hours. This course includes a study of limits, continuity, the definition of the derivative, differentiation, applications and antiderivatives.

Students enrolling in dual credit Calculus should have two years of high school algebra, Trigonometry or CC Advanced Math Plus, and an ACT math score of at least 24 or a grade of at least a C in Dual Credit College Algebra.

Mathematics Department

Course Options

2014 – 2015