



High School Mathematics
Course of Study Revisions
2021/2022

Course Name and Number	Course Description
<p>PDF Algebra I 1310 Grade 8-12 Required One Year 5 credits per semester A-G Requirement: C</p>	<p>Algebra I provides the transition from simple computation and problem solving into understanding the dynamic changes and relationships in the world, and universe, around us. The class aims to provide a symbolic understanding of the natural objects and events and how they relate to each other by understanding constants and formulaic relationships. Students will relate systems of equations to each other to find solutions in multiple ways and identify which process is best. An understanding of quadratic functions and equations will be developed through integration with technology and applications with real life examples across various methods to find solutions. This will be contrasted with exponential functions, radical functions, and geometric series. The class ends on a discussion of data collection and presentation types to use mathematical skills to present findings from data.</p>
<p>PDF Geometry 1320 Grade 9-12 Required One Year 5 credits per semester A-G Requirement: C</p>	<p>This Geometry course is designed to develop critical thinking and problem solving skills through the study of the basic elements of geometry and geometric concepts. In this course, students learn to use geometric reasoning as a method for problem solving. The course begins with an introduction to the basic tools of geometry: the structure of a mathematical system, connecting definitions, postulates, logical reasoning, and theorems. From there students move on to proofs, parallel and perpendicular lines, congruence and relationships in triangles and quadrilaterals, proportions and similarity, right triangles and trigonometry, transformations and symmetry, measurements of circles, surface area and volume, and probability and measurement.</p>
<p>PDF Algebra II 1330 Grade 10-12 Required One Year 5 credits per semester A-G Requirement: C</p>	<p>This course extends and deepens students' understanding of numbers and functions. Throughout the course, students will explore the systems of polynomial and rational functions, and their relationship to integers and rational numbers respectively. Students will examine the relationship of a function and its inverse, through exponential and logarithmic functions. Students will study trigonometric functions and expand their knowledge of statistics to include understanding of the normal distribution.</p>
<p>PDF Statistics 1520 Grade 10-12 Required One Year 5 credits per semester A-G Requirement: C</p>	<p>Statistics is an activity and project-based class that will familiarize students with the collection and analysis of current real-world data. Students will learn reliable methods for obtaining sample data from a population, as well as various methods of visual and numerical description of the findings. Measuring the probability of an event, interpreting probability, and using probability in decision making are central themes of the course. Emphasis will be placed on forming original hypotheses, testing them, and then constructing formal written presentations of their methods, results, and conclusions. Students will discover throughout the year how careful critical analysis is essential to gaining statistical proficiency.</p>
<p>PDF Algebra II/Trig 1340 Grade 10-12 Required</p>	<p>In this course, students expand understanding of expressions including rewriting, interpreting and examining rational, radical, polynomial expressions and deriving the formula of the sums of finite geometric series. Students continue expanding</p>

<p>One Year 5 credits per semester A-G Requirement: C</p>	<p>their knowledge of rational, polynomial, radical, exponential and logarithmic functions. They learn to represent functions algebraically, graphically, in numerical tables and by verbal descriptions. Students will extend their knowledge of functions by examining domains, various discontinuities, and through the use of advanced theorems such as the binomial expansion theorem, Descartes rules of signs, and the conjugate root theorem. Students will also be exposed to more sophisticated and complex applications.</p>
<p>PDF Pre-Cal 1390 Grade 10-12 Required One Year 5 credits per semester A-G Requirement: C</p>	<p>Pre-Calculus focuses on the study of families of functions, their application in mathematical modeling, and the use of equivalence to rewrite expressions to reveal important features. Students analyze features of a variety of functions and their graphs, connect different representations, and identify and apply transformations of equations and graphs. To solve problems using function models, students choose among function families, fit linear and nonlinear functions to data, and interpret, apply, and evaluate the resulting models.</p>
<p>PDF Pre-Cal Honors 1405 Grade 10-12 Required One Year 5 credits per semester A-G Requirement: C</p>	<p>Pre-Calculus Honors combines many of the trigonometric, geometric and algebraic techniques needed to prepare students for the study of calculus and strengthens their conceptual understanding of problems and mathematical reasoning in solving problems. Students will be introduced to matrices, vectors, polar graphing, parametric equations, conic sections, and introductory calculus topics. The approach to problem-solving in this course is done numerically, graphically, algebraically and verbally.</p>