Math - Cambridge Programme

Math - Cambridge Programme Courses

AICE Mathematics 1 (AS Level)

AICE Mathematics 1 is designed to provide accelerated students a strong foundation in Pre-Calculus and beginning calculus concepts. They will develop an understanding of Advanced mathematical principles and an appreciation of mathematics as a logical and coherent subject. The international curriculum includes essential Pre-Calculus topics and an introduction to differentiation and integration. Students will acquire the mathematical background necessary for further study at the AICE Mathematics 2 level. College credit is available at some universities for exemplary performance on associated exams.

Credits 1
Grades
11, 12
Course Designation
Advanced Subsidiary Level (AS),
Weighted (1.0W),
Cambridge
Schools
Brentsville District High School
Potomac High School
Requirements
Teacher recommendation
Prerequisites
IGCSE Advanced Algebra 2 *or* Pre-Calculus with Trigonometry for A

AICE Mathematics 2 (A Level)

AICE Mathematics 2 (A Level) extends the knowledge base built in AICE Mathematics 1. The course follows a rigorous, international curriculum to include Advanced Placement Calculus BC topics. Further concepts and skills in mathematics are taught including the study of concepts, techniques and applications of calculus. Students will increase their ability to analyze problems logically, identify and interpret relevant factors and, where necessary, select an appropriate mathematical method to solve a problem. They will be prepared to sit for the external examination leading to an Advanced International Certificate of Education Diploma. College credit is available at most universities for exemplary performance on Cambridge exams.

Credits 1
Grades
12
Course Designation
Advanced Level (A),
Cambridge,
Weighted (1.0W)
Schools
Brentsville District High School
Potomac High School
Requirements
Teacher recommendation
Prerequisites
AICE Mathematics 1 (AS Level)

IGCSE Advanced Algebra 2

IGCSE Advanced Algebra 2 is an accelerated course that integrates select Pre-Calculus concepts to prepare students for AICE Mathematics 1. Students are expected to master Algebraic mechanics and understand the underlying theory

and apply the concepts to real-world situations. The study of the trigonometric circular functions will continue from IGCSE Geometry and prepare students for further study of this topic in the Pre-Calculus course, AICE Mathematics 1. Assessment includes an external student examination and course work evaluations by the teacher. This course has an associated Standards of Learning (SOL) test. Students will participate in the SOL test only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements. Algebra 2 is required for the Advanced Studies Diploma.
Credits 1
Grades
10, 11
Course Designation
Cambridge,
Weighted (0.5W)
Schools
Brentsville District High School
Potomac High School
Requirements
Teacher recommendation
Prerequisites
Advanced Algebra 1
IGCSE Geometry

IGCSE Geometry

IGCSE Geometry includes all objectives in the PWCS Geometry curriculum and the Virginia Standards of Learning with a strong relation to Algebraic concepts. Emphasis will be placed on recognizing, analyzing, and interpreting geometric terms, shapes, and properties. Additional topics in trigonometry, vectors, and transformations are included. Alternative activities such as projects, investigations, oral and written communication, and cooperative learning activities are a regular part of this course. This course has an associated Standards of Learning (SOL) test. Students will participate in these tests only when they have not yet earned sufficient credit for graduation and/or satisfied federal testing requirements.
Credits 1
Grades
9, 10
Course Designation
Cambridge,
Weighted (0.5W)
Schools
Brentsville District High School
Potomac High School
Prerequisites
Algebra 1