

MATHEMATICS DEPARTMENT

PRE-IB GEOMETRY A/B (Grades 9)

3208/3209

Prerequisite: Attainment of the outcomes of Algebra I.

.5 credit/.5 credit

Pre-IB Geometry expands the traditional units of geometry to include the commonalities of sets, probability, and algebraic systems. Logical reasoning developed through inductive and deductive proofs is extended to writing. These foundations are extended in future course work and discussed in IB Theory of Knowledge.

IB ANALYSIS AND APPLICATIONS OF FUNCTIONS A/B (Grades 9-10)

3306/3307

Prerequisite: Attainment of the outcomes of Pre-IB Geometry

.5 credit/.5 credit

Each family of functions (polynomial, rational, exponential, and trigonometric) is analyzed for characteristic traits, transformations, and inverses. Students examine the relevance of the features of graphs to real-world models. Matrices, vectors, probability, and statistics are also studied as tools to use in a variety of situations.

IB MATH STUDIES A/B (Grades 10-11)

3410/3418

.5 credit/.5 credit

Prerequisite: Attainment of the outcomes of IB Analysis and Application of Functions with a grade of 81% or below or with a grade of 84% or below in MYP Algebra.

This course builds on the concepts of IB Analysis and Application of Functions and Pre-IB Geometry in preparation for the standard level IB Mathematical Studies examination. Students examine functions (transformation and applications) linear programming, probability, statistics, trigonometry, sequences and series, and solid geometry. They complete the internal assessment, which is a project-applying math to a field of interest. Upon completion of this class, students may enroll in AP calculus.

IB PRECALCULUS A/B (Grades 10-11)

3420/3424

.5 credit/.5 credit

Prerequisite: Attainment of the outcomes of IB Analysis and Applications of Functions with a grade of 82% or above or with a grade of 85% or above in MYP Algebra.

This course builds on the work and modeling in Analysis and Applications of Functions. Further emphasis is given to probability, circular functions, two- and three-dimensional vectors, conics, and complex numbers. The concepts of limit, derivative, and power series are introduced. Students may complete the internal assessment and sit for the standard level IB Mathematical Studies examination. Upon completion of this class, students may enroll in either AP AB Calculus or AP BC Calculus.

IB students may also enroll in the following AP sequence. For course descriptions, see the Mathematics Section.

- Calculus A&B (Grades 11-12)
Prerequisite: IB Math Studies or IB Pre-Cal with a grade of 81%
- Calculus B&C (Grades 11-12)
Prerequisite: IB Pre-Calculus with a grade of 82% or above or Honors Pre-Calculus with a grade of 85% or above.
- Multivariable Calculus (Grade 12)
Prerequisite: B C Calculus with a grade of 82% or above.
- Statistics (Grades 11-12)
May be taken simultaneously with other math classes.