

IB Standard Level Math – Applications and Interpretation
 Mrs. Maughan - angela.maughan@psd150.org
 Room 169 - available after school



Course Description

Mathematical Standard Level – Applications and Interpretation is a two year course. This course is designed for students who enjoy describing the real world and solving practical problems using mathematics, those who are interested in harnessing the power of technology alongside exploring mathematical models and enjoy the more practical side of mathematics.

Class Materials

Students will be required to bring planner, paper, pencil/pen, textbook, graphing calculator (TI-NSpire recommended), and their Math Studies notebooks to class every day.

Textbook: Mathematics: Applications and Interpretation Standard Level published by Oxford

Class Timelines, Late Work, and Retakes

Students will typically receive a timeline for each topic. This timeline will include assignments, quizzes, and test dates. This timeline may be changed when necessary, however with this timeline a student will not have to fall behind when absent and may even be able to work ahead. Late work will be graded according to district policy. **One** retake of any test (excluding finals) will be allowed prior to the end of the quarter and will replace the original grade if it is higher. Only one retake per test is allowed. (See District Policy)

Class Requirements/Grades

The grade earned in this class will be percentage based as determined by district and is quarter based:

Quarter grade calculations:

Summative assessments – 70% (tests, quizzes, and projects)

Formative assessments –30% (homework, in class work, mini-quizzes)

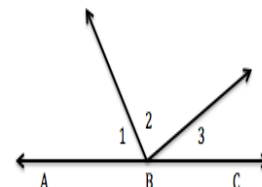


Semester grades: Quarter 1 – 45%, Quarter 2 – 45%, and the Final – 10%

Letter Grade	Percent	Mastery Level
A	100-90	Student has demonstrated consistent, exceptional mastery.
B	89-80	Student has demonstrated regular, good mastery.
C	79-70	Student has demonstrated acceptable mastery.
D	69-60	Student has demonstrated partial mastery.
F	59-50	Even with help, student has not demonstrated mastery.
I	40	No evidence provided.

Course Objectives/Teacher Expectations

IB Math Studies is a class that should be taken when a student is planning on entering college. Therefore, students will be treated as college bound students with emphasis on personal responsibilities. These responsibilities include, but are not limited to, completing one's **own** work on time, developing proper study skills, and behaving respectfully in the classroom.

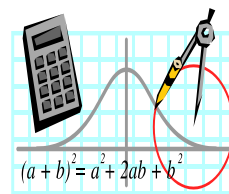


Class Rules

1. Be respectful.
2. Be prompt.
3. Be prepared. (A planner will be required for any passes!)

Approximate Four-Semester Plan

- 1st semester – Chapters 1, 2, 3, 4
- 2nd semester – Chapters 5, 6, 7, 8
- 3rd semester – Chapters 9, 10, 11, and 14 (exploration)
- 4th semester – Chapters 12,13, (review)



IBO Assessments:

External Assessment: 80% based on written papers administered on consecutive days in May
Paper 1: 40% (compulsory short-response questions based on the whole syllabus)
Paper 2: 40% (compulsory extended-response questions based on the whole syllabus)

Internal Assessment: 20% Exploration

The project is an individual piece of work involving the collection of information or the generation of measurements, and the analysis and evaluation of the information or measurements. This project is internally assessed by the teacher and externally moderated by the IBO.

***Any portion of the internal assessment not turned in will result in a 0%, because it is a course requirement the 40% rule does not apply. Also, failure to turn in the final draft of the Internal Assessment will result in an automatic failure of that semester due to not completing a course requirement.**

Course Outline:

Number and Algebra: Scientific notation, arithmetic and geometric sequences and series and their applications in finance including loan repayments, simple treatment of logarithms and exponentials, simple proof, approximations and errors.

Functions: Creating, fitting and using models with linear, exponential, natural logarithm, cubic and simple trigonometric functions.

Trigonometry and Geometry: Volume and surface area of 3D solids, right-angled and non-right angled trigonometry including bearings, surface area and volume of composite 3D solids, establishing optimum positions and paths using Voronoi diagrams.

Statistics and Probability: Collecting data and using sampling techniques, presenting data in graphical form, measures of central tendency and spread, correlation using Pearson's product-moment and Spearman's rank coefficients, regression, calculating probabilities, probability diagrams, the normal distribution, Chi-squared test for independence and goodness of fit.

Calculus: Differentiation including analysing graphical behavior of functions and optimisation, using simple integration and the trapezoidal rule to calculate areas of irregular shapes.

