IB Math Analysis SL (Standard Level) – Course Information

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# Prerequisite: Successful completion of at least Honors Advanced Algebra.

# Course Content:

**IB Mission Statement:** The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment. These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.

**The aim of the IB program:** To develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world. IB learners strive to be: Inquirers, Knowledgeable, Thinkers, Communicators, Principled, Open-minded, Caring, Risk-takers, Balanced, and Reflective.

# The goal of this course is to prepare students for the IB exam during their senior year in the Math Analysis SL area.

**Topic 1 — Number and Algebra** Topics include arithmetic and geometric sequences and series, exponents and logarithms, and the binomial theorem.

**Topic 2 — Functions and Equations** Topics include definition of functions, composite and inverse functions, graphing of functions, transformations of graphs, reciprocal functions and quadratic, exponential and logarithmic functions.

**Topic 3 — Circular Functions and Trigonometry** Topics include the unit circle, radian measure, defining sine, cosine and tangent, solving trigonometric equations, solving triangles, and graphing trigonometric functions.

**Topic 4 — Statistics and Probability** Topics include concepts of descriptive statistics, probabilities, modeling data, correlations, binomial distributions, and normal distributions.

**Topic 5 — Calculus** Topics covered include limits, convergence, derivatives (1st and 2nd), integration (definite and indefinite integrals) and points of inflection.

**\*The Junior Year will cover topics 1-4. The Senior Year will cover topic 5.**

**Textbook**

The textbook used in this class is *Mathematics Standard Level for the IB Diploma* by Paul Fannon, Vesna Kadelburg, Ben Woolley, and Stephen Ward published by Cambridge University Press. We will do parts of every section as well as extra projects and problems as needed to prepare for the IB exam and Exploration project.

# Calculators

A graphing calculator is **required** for this course. If you do not have one, the ideal calculator would be a TI-84+ or TI84+ CE. TI83’s and TI-Nspires will also work.

**Assessments for IB (International Baccalaureate)**

There are 5 topics in this course which are assessed by IB. The IB assessment consists of an **external assessment** (the actual **IB Exam**) and an **internal assessment** called the Exploration. Both will take place during the senior year. The Exploration is a paper that involves investigating an area of mathematics. The final product will be about 6-12 pages in length.

# Champlin Park Assessment

Each of the 5 topics assessed by IB will also be assessed for a Champlin Park letter grade. The following grading scale and weighting will be used:

# Grading Scale

A 93 – 100%, A- 90 – 92%,

B+ 88 – 89%, B 83 – 87%, B- 80 – 82%

# 100% of Grade will be on Tests

C+ 78 – 79%, C 73 – 77%, C- 70 – 72%

D+ 68 – 69%, D 63 – 67%, D- 60 – 62%

F Below 60%

# Classroom Expectations and Procedures

**Assignments:** Practice problems will be assigned for each section. Even though these will not be part of the overall grade for this class, you are expected to practice these concepts in order to best prepare for the tests and IB exam.

**Tests and Retests:** Tests are intended to demonstrate mastery of your learning. If you miss a test day, you will take the test on the next day you return or as assigned by the teacher.

You will have the opportunity to retest once you have demonstrated sufficient evidence of relearning. Retesting must be completed within a reasonable timeframe. (Usually within 2 weeks.) You should be proactive about retesting. If you do retest, you will earn the second test score. The score on the retest is the new score, even if it is lower than the original test score. **In order to retest, all homework must be turned in by the day of the test.**

**Truancy and Cheating:** If a student is found to have cheated on a test or skipped on the day of a test, a zero will be given for that test and parents/guardians will be contacted. The student will have the opportunity to take an alternate test to demonstrate understanding of the concepts. No additional retests will be allowed.

**Respect for Others:** At Champlin Park High School we celebrate our differences and recognize the benefits of a diverse student body. For this reason we must take a stand against offensive language and hate speech. Racially offensive and/or homophobic language as well as any other derogatory slur towards a specific group has no place in our school or this classroom. We will document and report language that is hateful and hurtful and leads to feelings of being ostracized (not accepted) from the Champlin Park family.