
IB Math SL Syllabus

The IB Math SL course consists of 7 core topics, totalling to 140 hours of teaching time and 10 hours of class time devoted to the Internal Assessment (IA) which comprises of two portfolio assignments.

The sequence in which the core topics is taught is left up to the individual teacher. The sequence presented in this book is a recommended sequence only. The sequence was designed to ensure a flow of content and to help build a broad scope of mathematics through the required topics of the IB Math SL course. Ultimately, the sequence of delivery depends on the individual teacher, teaching philosophy and resources.

The preparation of this text assumes that the teacher has attended an IB Level 1 Teacher Training Workshop in Mathematics SL. These workshops are offered throughout the school year at various locations worldwide. The workshop addresses in detail the syllabus content, the internal assessment and its rubric as well as connecting pieces of the IB program including the extended essay. As well, it should be noted that the teacher should have access to the Online Curriculum Centre (OCC) which is a valuable source to an IB teacher, including samples of portfolio assignments.

The portfolio assignments are to be integrated throughout the year. It is assumed that students will be given more than the 2 required portfolio pieces in order to enhance the course as well as to provide students with enough opportunity to master the skills developed through the portfolio assignments. Throughout the course, suggestions for which portfolio assignment (chosen from the IB Mathematics SL Teacher Support Material) to assign are made. Time allotment is made throughout the course but may be adjusted depending on the individual teacher.

IB Math SL Syllabus

Syllabus Overview

Core	140 hours
Topic 1 - Algebra	8
Topic 2 - Functions and equations	24
Topic 3 - Circular functions and trigonometry	16
Topic 4 - Matrices	10
Topic 5 - Vectors	16
Topic 6 - Statistics and Probability	30
Topic 7 - Calculus	36
Portfolio assignments	10 hours

Detailed Syllabus

Core	140 hours
Algebra	[8]
1.1 Exponents and Logarithms	3
1.2 Sequences and Series	3
1.3 Binomial Theorem expansion	2
Functions and equations	[24]
2.1 Function concepts	4
2.3 Quadratic Functions	6
2.4 Reciprocal Function	3
2.5 Exponential and Logarithmic Functions	3
2.6 Natural Exponential and Logarithmic Functions	4
2.7 Transformations of graphs	4
Circular functions and trigonometry	[16]
3.1 The Circle	1
3.2 Primary Trigonometric Ratios	2
3.3 Trigonometric Identities	3
3.4 Circular Functions and Their Graphs	3
3.5 Solving Trigonometric Equations	4
3.6 Solution of Triangles	3
Matrices	[10]
4.1 Matrix Definitions	1
4.2 Operations with Matrices	2
4.3 Determinants and Inverse Matrices	2
4.4 Using Matrices to Solve Systems of Equations	5

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Vectors	[16]
5.1 Vector concepts	4
5.2 Scalar Product of Two Vectors	4
5.3 Vector Representation of Lines	4
5.4 Intersection of Lines (4.4)	4
Statistics and Probability	[30]
6.1 Statistical Definitions	2
6.2 Presentation of Data	3
6.3 Statistical Measures	3
6.4 Cumulative Frequencies	3
6.5 Probability	5
6.8 Diagrams in Statistics and Probability	2
6.9 Probability Distributions	2
6.10 Binomial Distribution	4
6.11 Normal Distribution	5
Calculus	[36]
7.1 Limits and Derivatives	7
7.2 Derivative Rules	5
7.3 Maximum and Minimum Problems	5
7.4 Indefinite Integration	4
7.5 Definite Integration	7
7.6 Applications of Integration	4
7.7 Curve Sketching	4
Portfolio assignments	[10]