

Pre-IB Course. Mathematic

Session	Week Commencing	Topic	Contents
1	May 2, 2023	Functions	Graphing and inverting linear functions Absolute values
2	May 2, 2023	Quadratic functions	Quadratics and discriminant Maximising quadratic quantities Intersection of parabolae Introduction to higher degree curves
3	May 8, 2023	Numbers	Rules of exponents Surds and conjugate expressions Application to triangles with irrational side lengths
4	May 8, 2023	Algebra	Polynomials Factorisation by $(x-p)$ with p a root Remainder theorem Synthetic division
5	May 15, 2023	Linear algebra	Simultaneous equations (2, then 3) 3 cases: no solution, unique sol or infinite sols Solving graphically and by elimination GDC approach
6	May 15, 2023	Functions	Logarithmic functions and bases Reciprocal of the exponent functions Solving power equations (e.g. radioactive decay)
7	May 22, 2023	Functions	Straight-line graphs Tangents and normals at point $x=a$ Introduction to regression with GDC
8	May 22, 2023	Evaluation 1	
9	May 29, 2023	Trigonometry	Pythagoras, SohCahToa Special triangles for exact values Unit circle
10	May 29, 2023	Trigonometry	Plotting the sine and cosine functions Symmetry/periodicity Trigonometric algebra
11	June 5, 2023	Combinatorics	Factorials, binomial coefficients Permutations and combinations Counting exercises
12	June 5, 2023	Combinatorics	Expanding a binomial bracket Sequences: arithmetic, geometric
13	June 12, 2023	Complex Algebra	Complex numbers Fundamental theorem of algebra
14	June 12, 2023	Differentiation	Interactive Desmos activity Reference derivatives
15	June 19, 2023	Integration & Kinematics	Antiderivatives Integrals: area under a curve Displacement, velocity, acceleration
16	June 19, 2023	Evaluation 2	

Teacher:

Kevin Morice - Head of Mathematics, teacher of IB Maths & TOK

Mr. Kevin is Irish and has always enjoyed challenges. After studies in statistics in France and computer science in Germany, he decided to become a teacher to explore the world while sharing his passion: numbers were created to better understand our lives. Kevin believes that when one door closes in life, another always opens. It's important to look for the new door rather than focus on the old.