IGCSE Additional Mathematics (0606)

Course Outline

The Additional Mathematics syllabus is intended for high ability candidates who have achieved, or are likely to achieve, Grade A*, A or B in the Cambridge IGCSE Mathematics examination.
Successful Cambridge IGCSE Additional Mathematics candidates gain lifelong skills, including:
- the further development of mathematical concepts and principles
- the extension of mathematical skills and their use in more advanced techniques
- an ability to solve problems, present solutions logically and interpret results
- a solid foundation for further study.

Course Aims

The aims are to enable candidates to:
- consolidate and extend their elementary mathematical skills, and use these in the context of more advanced techniques
- further develop their knowledge of mathematical concepts and principles, and use this knowledge for problem solving
- appreciate the interconnectedness of mathematical knowledge
- acquire a suitable foundation in mathematics for further study in the subject or in mathematics related subjects
- devise mathematical arguments and use and present them precisely and logically
- integrate information technology (IT) to enhance the mathematical experience
- develop the confidence to apply their mathematical skills and knowledge in appropriate situations
- develop creativity and perseverance in the approach to problem solving
- derive enjoyment and satisfaction from engaging in mathematical pursuits, and gain an appreciation of the beauty, power and usefulness of mathematics.

Assessment:

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Component	Duration	Marks Allocated	Weighting
Paper 1 10–12 questions of various lengths No choice of question.	2 hours	80 marks	50%
Paper 2 10–12 questions of various lengths No choice of question.	2 hours	80 marks	50%

Assessment Objectives (AO):

The examination will test the ability of candidates to:

- recall and use manipulative technique
- interpret and use mathematical data, symbols and terminology
- comprehend numerical, algebraic and spatial concepts and relationships
- recognise the appropriate mathematical procedure for a given situation
- formulate problems into mathematical terms and select and apply appropriate techniques of solution.

Course content:

During the course of the two years, students will study the following topics: Indices, Logarithmic and exponential functions, Quadratic Equations, Simultaneous Equations, Linear Inequalities, Factors of Polynomials, Conditions of Congruence and Similarity, Functions and Graph, Properties of a Circle, Binomial Expansions, Permutations and Combinations, Functions, Trigonometry, Applications of Trigonometry, Coordinate Geometry, Straight Line Graphs, Arc Lengths and Sector Areas, Further Trigonometry, Quartiles and Percentiles, Loci and Set Language and Notation, Probability, Matrices, Vectors in Two Dimensions, Transformation, Mathematics in Practical Situations, Graphs in Practical Situations, Differentiation and Integration.