IB Mathematics & Mathematical Studies
HIGHER AND STANDARD LEVEL

What are the aims of the course?

The aims of IB Mathematics and Mathematical Studies enable students to:

- Appreciate the international dimensions of Mathematics and the multiplicity of its cultural and historical perspectives
- Foster enjoyment from engaging in mathematical pursuits, and develop an appreciation of the beauty, power and usefulness of Mathematics
- Develop logical, critical and creative thinking in Mathematics
- Employ and refine the powers of abstraction and generalisation
- Develop patience and persistence in problem solving
- Have an enhanced awareness of, and utilise the potential of, technological developments in a variety of mathematical contexts
- Communicate mathematically, both clearly and confidently, in a variety of contexts

What does it involve?

Mathematics Higher and Standard Level
The eight compulsory topics are: Number and Algebra, Functions and Equations, Circular Functions and Trigonometry, Vector Geometry, Statistics, Probability and Calculus.

Mathematics Higher Level
Students must additionally study one of the options which include Statistics, Sets, Relations and Groups, Discrete Maths, Series and Differential Equations and Exploration. A decision as to which topic is to be chosen will be taken during the course.

Mathematical Studies (Standard Level)
The eight compulsory topics are: Number and Algebra, Sets and Logic, Functions, Geometry and Trigonometry, Statistics and Probability, Financial Maths and Differential Calculus.

How is it assessed?

Mathematics Higher Level
During the course, the students will undertake a project, worth 20%. The end of course assessment comprises three examination papers; two on the core content (30% each) and a shorter paper on the chosen option (20%).

Mathematics Standard Level
During the course, the student will undertake a project, worth 20%. This is assessed by the teacher and externally moderated by the International Baccalaureate Organisation (IBO). The end of course assessment comprises two examination papers worth 40% each.

Mathematical Studies (Standard Level)
Assessment is by two written papers (three hours in total) and an individual project that focuses on the collection of information or the generation of measurements, and the analysis and evaluation of that information.

Are there any specific entry requirements?

Mathematics Higher Level: Students should have gained a minimum of a Level 8 at iGCSE/GCSE and have a natural aptitude for mathematics. This course goes well beyond A2 level Maths and is much closer to Further Maths in level of difficulty and content covered.

Mathematics Standard Level: Students should have gained a Level 6 or equivalent at Higher Tier iGCSE/GSCE. This course goes well beyond AS Level Maths and is much closer to A2 Maths in level of difficulty and content covered.

Mathematical Studies (Standard Level): Students should have gained a Level 5 at Higher Tier iGCSE/GCSE or equivalent.

Why is it a useful qualification?

Mathematics Higher Level: The course provides a sound basis for students wishing to pursue sciences, engineering, economics or similar mathematics-related courses at university level. The course covers a wide range of traditional topics with detail and rigour, enabling the students to develop high standards of mathematical processing and problem solving.

Mathematics Standard Level & Mathematical Studies: These courses provide a grounding for students considering a degree in a subject which requires mathematical understanding including Social Sciences, Business and Economics.