



Mathematics

Mathematics and the International Baccalaureate

Mathematics is a key subject in the IB programme and all students must study the subject. With this in mind and recognising the different abilities of the students, four different mathematics programmes have been devised by IB and three will be offered by the Mathematics Department; Higher Level Further Mathematics will not be offered. Each course is designed to meet the needs of a particular group of students and so great care should be taken to select the course that is most appropriate for an individual student. All three courses on offer at Bedford School have an element of portfolio work that is attempted throughout the two-year programme. In addition, all three courses require the use of the Graphical Display Calculator and the Mathematics Department will issue guidance about the recommended model for each course.

Mathematical Studies SL

This course is available at standard level (SL) only and is designed for students who see only a limited use of mathematics in their future courses. The course aims to build confidence and encourage an appreciation of mathematics in students, and for many students this course will be their final experience of being taught formal mathematics.

Building on a good knowledge of GCSE Higher Level mathematics, the course covers the same topics in a little more detail along with new areas such as sets, logic and financial mathematics. The probability and statistics component of this course includes the study of the χ^2 distribution and regression and often forms the basis of the project that all students attempt. Although this course does involve differential calculus, it might not be acceptable for some Further Education courses, particularly abroad. A grade B at Higher Level GCSE is the minimum requirement.

Mathematics SL

This course is designed for the more able mathematician who might need a more substantial mathematics course for future studies. Students must possess a good knowledge of basic mathematical concepts and be confident when applying the mathematical techniques learnt at GCSE. There is some degree of overlap with the Mathematical Studies course but most topics are studied in greater depth. In addition, calculus is introduced into this course and forms a significant part of the teaching programme. A greater emphasis is put on the use of the Graphical Display Calculator and computer packages as solvers and modelling tools. To do well on this course a student would be expected to have gained a grade A or A* at GCSE level.

Mathematics HL

Only one Higher Level Mathematics course is offered and this should be considered by students who have gained an A* at GCSE and show talent in mathematics. The course is long and demanding, requiring students to study a broad range of mathematical topics through a number of different approaches and to varying degrees of depth. Calculus forms a larger part of this course as does the study of mathematical functions and Statistics is studied both as a compulsory element and as the option. Students embarking on this course should be intellectually equipped to appreciate the links between parallel structures within the different topic areas of mathematics. The majority of students taking HL will be expecting to include mathematics as a major component of their university studies. Students wishing to specialise in Mathematics at university must seek further advice from the Head of Mathematics.