

## ■ IB HL Mathematics

### **Introduction**

This course is designed for students with strong ability in mathematics, who may need mathematics for further studies in this subject or in related subjects, such as physics and engineering, at university. Students commencing the Mathematics HL course should have achieved a standard of mathematics equivalent to an A\* grade, or a strong A grade at GCSE level.

The aims of Mathematics HL are to enable candidates to:

- appreciate the international aspects of mathematics;
- develop an understanding usefulness of mathematics;
- develop logical and critical thinking in pure and applied mathematics;
- develop mathematical knowledge and skills;
- understand the use of technology to support mathematics;
- communicate mathematically, in writing and orally;
- prepare students for study at university.

### **Content**

#### ***Core Topics***

1. Algebra
2. Functions and Equations
3. Circular Functions and Trigonometry
4. Matrices
5. Vectors
6. Statistics and Probability
7. Calculus

#### ***Options***

One of the following topics will be studied.

8. Statistics and Probability
9. Sets, Relations and Groups
10. Series and Differential Equations
11. Discrete Mathematics

### **Assessment**

The external assessment (80%) is three written papers, one with short response questions and the other two with extended responses questions. The coursework (20%) is a collection of two pieces of work: an investigation and a modelling problem.

Students on this course are expected to have a TI-84+SE calculator.