

## Group 5

# Maths: Approaches and Analysis

### Course Description

Students in both the SL and HL classes in Mathematics: analysis and approaches will study Numbers, Algebra, Functions, Geometry, Trigonometry, Probability, Statistics, and Calculus. The course has a strong emphasis on the ability to construct, communicate and justify correct mathematical arguments. It is expected that students will be able to develop insight into mathematical form and structure, and be intellectually equipped to appreciate the links between concepts in different topic areas. Students are also encouraged to develop the skills needed to continue their mathematical growth in other learning environments through an array of mathematical explanations. Students will be required to use a TI-84 Plus graphing calculator. During the two year program, students will also complete an internally assessed research paper on a self-chosen mathematical topic. At the conclusion of the course, SL students will sit two papers (one with calculators and one without). The HL students will sit three papers (two with calculators and one without).

### 5 important skills you will need to develop in this class:

1. Develop an understanding of the concepts, principles and nature of mathematics.
2. Develop logical and creative thinking, and patience and persistence in problem solving allowing students to communicate mathematics clearly, concisely and confidently in a variety of contexts
3. Employ and refine their powers of abstraction and generalization.
4. Develop the ability to reflect critically upon their own work and the work of others.
5. Independently and collaboratively extend their understanding of mathematics.

