GP5　Mathematics(Higher)

Year 1

Unit 1: Algebra	Introduce basic algebraic concepts and their applications.
Unit 2: Functions and Equations	Explore functions as a unifying theme in mathematics and ways of using technology to support this study.
Unit 3: Trigonometry	Explore circular functions and their usage in modelling
Unit 4: Vectors	Investigate how to express physical quantities such as position and movement using vectors.
Unit 5: Probability and Statistics	Explore how to collect, analyze and interpret data.
Unit 6: Calculus	Introduce students to fundamental calculus, its origins and applications.

Year 2

Unit 1: Discrete Mathematics	Enable students to develop their reasoning and problem solving skills.
Internal Assessment Submission	Students will make the final submission of their coursework in the early part of the second year.
Unit 2: Course Review	The final section of the course will involve reviewing all material and helping students prepare for their final external assessments.

Course Objective

Over this two year course, students are expected to develop not only their knowledge and understanding of mathematics, but also become effective communicators that can work with others to solve a variety of challenging problems and have the necessary reasoning and technological skills to support this.

Course Outline

There are six mandatory units of study to be covered in the course. These will all be covered throughout the first year of the programme. The second year of the programme will be spent covering the optional unit (Discrete Mathematics) and supporting students as they work towards their final assessments. All students are also required to submit a mathematical exploration in the second year. The exploration theme and direction will be solely of the student's choosing and will represent the culmination of each student's inquiries into mathematics over the two years.

Teaching and Learning

Students will build upon their learning from the MYP to explore much more complex topics with a wider range of applications. Lessons will prepare students for life beyond school by engaging their reasoning, inquiry and technological skills whilst encouraging them to set their own goals and think creatively and critically about how to achieve them.