



A division of St. Francis Methodist School

## **Curriculum Description for Singapore-Cambridge GCE 'A' Level**

### **MATHEMATICS HIGHER 2 (Syllabus 9740)**

#### **AIMS**

The syllabus prepares students adequately for university courses including mathematics, physics and engineering, where more mathematics content is required. The syllabus aims to develop mathematical thinking and problem solving skills in students. Topics covered include *Functions and Graphs*, *Sequence and Series*, *Vectors*, *Complex Numbers*, *Calculus Permutations and Combinations*, *Probability Distributions*, *Sampling*, *Hypothesis Testing*, and *Correlations and Regression*. Students will learn to analyse, formulate and solve different types of problems. They will also learn to work data and perform statistical analyses.

#### **Use of Graphic Calculator**

The use of GC without computer algebra system will be expected. The examinations papers will be set with the assumption that candidates will have access to GC. As a general rule, unsupported answers from GC are not allowed unless the questions states otherwise. Where unsupported answers are not allowed, candidates are required to present the mathematical steps using mathematical notations and not calculator commands. For questions where graphs are used to find a solution, candidate should sketch these graphs a part of their answers. Incorrect answers without working will receive no marks. However, if there is written evidence of using GC correctly, method marks may be awarded.

Student should be aware that there are limitations inherent in GC. For example, answers obtained by tracing along a graph to find root of an equation may not produce the required accuracy.

#### **Scheme of Examination Paper**

For the examinations in H2 mathematics, there will be two 3-hour papers, each carrying 50% of the total mark, and each marked out of 100, as follows:

##### **PAPER 1 (3 hours)**

A paper consisting of about 10 to 12 questions of different lengths and marks based on the Pure Mathematics section of the syllabus.

##### **PAPER 2 (3 hours)**

A paper consisting of 2 sections, Section A and B

Section A (Pure Mathematics – 40 marks) will consist of 3 to 4 questions of different lengths and marks based on the Pure Mathematics section of the syllabus.

Section B (Statistics – 60 marks) will consist of 6 – 8 questions of different lengths and marks based on the Statistics sections of the syllabus.

Candidates will be expected to answer **all** questions.

Please refer to the SEAB website for more information regarding this course. <http://www.seab.gov.sg>