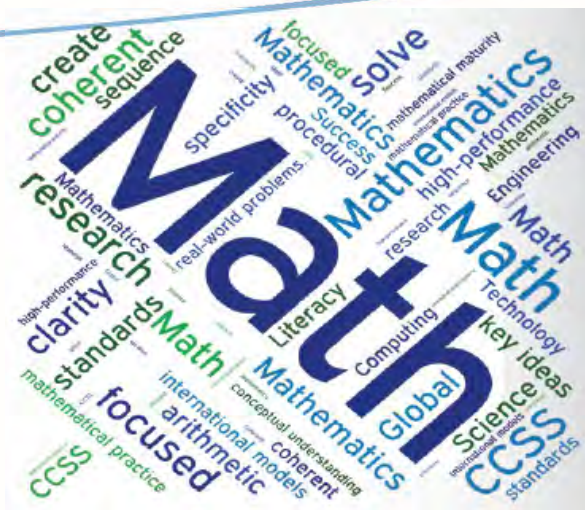## Mathematical Methods

Mathematical Methods has been designed for students who want to extend beyond year 10 learning and seek employment or further studies in a mathematical area.

Students undertaking Methods need a high level on algebraical understanding and a willingness to both build and maintain this knowledge.

Mathematical Methods

**General Subject
Senior Program 11-12**

Our Mission

To develop inspired, innovative and resilient learners prepared to challenge the future.

MATHEMATICAL METHODS

In Mathematical Methods students are challenged to build on their learning in algebra, functions and their graphs, and probability. Methods delves into complex problems in both abstract and real life contexts, with increasing levels of connections between topics. There is particular emphasis placed on the study of calculus within Methods.

Methods is the recommended course of study for students seeking tertiary studies after school in areas such as the natural and physical sciences, engineering sciences, health sciences and computer sciences.

TOPICS: UNIT 1 and 2

Unit 1	Unit 2
Algebra, statistics and functions	Calculus and further functions
• Arithmetic and geometric sequences and series 1 • Functions and graphs • Counting and probability • Exponential functions 1 • Arithmetic and geometric sequences	• Exponential functions 2 • The logarithmic function 1 • Trigonometric functions 1 • Introduction to differential calculus • Further differentiation and applications 1 • Discrete random variables 1

TOPICS: UNIT 3 and 4

Unit 3	Unit 4
Bivariate data, sequences and change, and Earth geometry	Investing and networking
• The logarithmic function 2 • Further differentiation and applications 2 • Integrals	• Further differentiation and applications 3 • Trigonometric functions 2 • Discrete random variables 2 • Continuous random variables and the normal distribution • Interval estimates for proportions

For successful completion of Mathematical Methods, students will undertake an External Examination at the end of their final year of study.

ASSESSMENT

The topics within Unit 1 and 2 will be assessed through formative assessment items. These items mirror the assessments seen in Units 3 and 4.

Unit 3	
Problem Solving and Modelling Task	20%
Examination	15%
Unit 4	
Examination	15%
Unit 3 & 4	
External Examination	50%

Prerequisite

To choose Mathematic students must have either a:

• C or higher in Maths Extension