

## SPECIALIST MATHEMATICS

Specialist Mathematics has been established as a basis for further education and employment in the fields of science, all branches of mathematics and statistics, computer science, medicine, engineering, finance and economics.



## Our Mission

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

# Specialist Mathematics

General Subject  
Senior Program 11-12



## SPECIALIST MATHEMATICS

Specialist Mathematics has been designed for students who both enjoy and thrive in a mathematical environment. It helps students gain an appreciation of the true nature of

mathematics, its beauty and its power.

Specialist Math builds on topics from Methods as well as introducing several new areas of study.

Specialist is the recommended study for students wanting to enter into further education or employment in mathematic and statistics, computer science, medicine, engineering, finance and economics.



## TOPICS: UNIT 1 and 2

Unit 1	Unit 2
<b>Combinations, vectors and proof</b>	<b>Complex numbers, trigonometry, functions and matrices</b>
<ul style="list-style-type: none"> <li>• Combinations</li> <li>• Vectors in the plane</li> <li>• Introduction to proof</li> </ul>	<ul style="list-style-type: none"> <li>• Complex numbers 1</li> <li>• Trigonometry and functions</li> <li>• Matrices</li> </ul>

## TOPICS: UNIT 3 and 4

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

For successful completion of Specialist Mathematics students need to undertake in External Examination at the end of their final year of study that is weighted at 50% of their overall grade.

## 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	Unit 4
<b>Mathematical induction, and further vectors, matrices and complex numbers</b>	<b>Further statistical and calculus inference</b>
<ul style="list-style-type: none"> <li>• Proof by mathematical induction</li> <li>• Vectors and matrices</li> <li>• Complex numbers 2</li> </ul>	<ul style="list-style-type: none"> <li>• Integration and applications of integration</li> <li>• Rates of change and differential equations</li> <li>• Statistical inference</li> </ul>

## PRE/CO-REQUISITE

Students studying Specialist Math must also complete **Mathematical Methods**.

To choose specialist Mathematics students must have achieved either a:

- 1.B or higher in Mathematics Extension
- 2.C or higher in Science and Maths Academy