Specialist Mathematics

VCE Units 1 to 4

This course is for students who have a genuine interest in, and enthusiasm for Mathematics. It can be useful for students who wish to pursue tertiary study that involves a large mathematical component (e.g science, engineering, actuarial studies, mathematics, statistics or physical science). There is a non-calculator component in the assessment of this course. As a result you will need excellent numerical and algebraic skills. The study of Specialist Mathematics Unit 1 and 2 assumes either current study of, or previous completion of, Mathematical Methods Units 1 and 2. You should have achieved a minimum of a B+ standard in Year 10 Mathematics.

Students can enrol in both Specialist Mathematics Units 1 and 2 and Further Mathematics Units 1 and 2 however can only receive VCE credits for one of these Unit 1 and 2 sequences.

Skills

Specialist Mathematics provides you with the opportunity to develop the following skills:

- make inferences from analysis and draw valid conclusions
- use mathematics to solve complex problems
- establish and construct results using formal proofs

Content

Units 1 and 2:

- sequences and series
- variation
- advanced algebra
- advanced trigonometry
- vectors
- polar co-ordinates
- kinematics

Units 3 and 4:

This course builds on the knowledge gained in Specialist Mathematics Units 1 and 2. You should have achieved a minimum of a B standard for both Units 1 and 2. In addition, some of the topics in this course are an extension of material covered in Mathematical Methods Units 3 and 4, it is assumed concurrent or previous study of Mathematical Methods Units 3 and 4.

- functions and graphs
- circular functions
- complex numbers
- advanced calculus
- vector calculus
- kinematics and mechanics

NB: All students undertaking this subject require the Texas Instruments Nspire CAS (Computer Algebra System) calculator.