

VCE Units 1 and 2 Mathematical Methods (CAS)

OVERVIEW

Mathematical Methods (CAS) is a higher level maths course designed for students who will require Maths Methods and/or Specialist Maths in Year 12. Areas of study are inclusive of functions, graphs, algebra, rates of change and calculus and probability

The units have been designed to enable students to develop knowledge of algebra, with the focus on the manipulation, analysis, expansion and factorisation of simple polynomials, become familiar with concepts of rates of change and of a calculus oriented approach to the measurement of constant, average, and instantaneous rates of changes, develop mathematical knowledge and skills through the study of probability and undertake the analysis and interpretation of functions and their graphs, all via the use of computer algebra system (CAS) technology to support and develop the learning of mathematics

AREAS OF STUDY.

UNIT 1

1. Functions and graphs
2. Trigonometric functions
3. Counting and probability

UNIT 2

4. Exponential functions
5. Arithmetic and geometric sequences and series
6. Introduction to differential calculus.

Skills:

- Use of technology to solve problems -via CAS calculators
- Analytical, research and problem solving
- Investigation and modelling

Students principally work individually on set tasks, assignments and written examinations.

Students will start to develop intermediate to advanced mathematical skills and be competent in using logical thought, formulating problems in a way which allows for computation and decision, make deductions from assumption and be able to apply advanced concepts.

NCAT Maths Methods has small class sizes that allow for more student assistance from the teacher. The use of CAS calculator technology is incorporated in all areas of study, and students also have the use of the wireless navigator system, which is an interactive blended learning system for the use of CAS calculators. This facilitates a high degree of teacher/student interaction and further enhances learning.

ASSESSMENT

Unit 1 and 2 semester exams.

SACS. Formal test for each area of study.

Students are also assessed on assignments, summary book notes and the use of CAS calculator technology.

SUBJECT PREREQUISITES

A strong performance in Year 10 Mathematics.

Mathematical Methods CAS Units 1 and 2 are pre-requisites for Mathematical Methods CAS Units 3 and 4, and for Specialist Mathematics Units 3 and 4.