



Mathematical Methods

Description

Mathematical Methods Units 1- 4 introduces students to more advanced mathematical concepts and how these can be applied to real life situations.

Unit Sequence/Skills Development

Unit 1 - Mathematical Methods

- Functions, relations and graphs (graphical representation of simple algebraic models, domain and range of graphs, graphs of polynomial functions)
- Algebra, number and structure (symbolic notation to develop algebraic expressions, functions, equations and relations)
- Calculus (constant and average rate of change)
- Data analysis, probability and statistics (outcomes, trials, probability, Venn diagrams)

Unit 2 - Mathematical Methods

- Functions, relations and graphs (circular, exponential and logarithmic functions)
- Algebra, number and structure (transformations on the plane,)
- Calculus (differentiation and antidifferentiation of polynomial functions)
- Data analysis, probability and statistics (conditional probability, complementary, mutually exclusive, conditional and independent events)

Unit 3 and 4 - Mathematical Methods

- Functions, relations and graphs (graphs of polynomials, exponentials, circular functions, logarithms)
- Algebra, number and structure (composition of functions, inverse functions, solution of equations)

Possible Assessment Tasks

Assessment tasks for Unit 1 and 2 (CAS calculator required)

Units Assessment tasks for Unit 1 and 2 could include; assignments, tests, solutions to worked questions, summary/review notes, modelling tasks, problem-solving tasks, and mathematical investigations. These will involve the appropriate use of technology. All assessments for Units 1 and 2 are school-based, procedures for assessment of levels of achievement in Units 1 and 2 are a matter for school decision.

Assessment Units 3 and 4 (CAS calculator required)

Unit 3 School-assessed Coursework will contribute 20% to the study score and Unit 4 School-assessed Coursework will contribute 20% to the study score. Level of achievement is also assessed by two end-of-year examinations; Exam 1, 1.0 hour duration, no technology or notes of any kind, and contributes 20% to the study score. Exam 2, 2.0 hours CAS calculator and bound reference permitted, and contributes 40% to the study score. Overall exams contribute 60% of the

Career Options

Highly recommended for students considering future studies in; Engineering, Sciences, Information Technology, Business, Law and Medicine and related courses. (NOTE: at time of writing Tertiary Education have not indicated what level of Mathematics is required for specific courses for 2025 entry)