
YEAR 10 SUBJECTS

Mathematics – Advanced Mathematics 1

The study of Advanced Mathematics 1 will assist you to think critically and act logically to evaluate situations, solve problems and make decisions, identify patterns and form generalisations, use technology and communicate ideas and information.

In this study, you will practice mathematical algorithms, routines and techniques and use them to solve complex problems and apply mathematical knowledge and skills in unfamiliar situations which require investigative, modelling or problem-solving approaches. You will complete a course that provides a sound background in number, algebra, function, measurement, geometry and probability. The appropriate use of technology to support the learning of mathematics will be incorporated throughout the course in the use of CAS calculators. Topics studied include Algebra and Equations, Linear Functions, Surds, Indices, Exponential Functions, Logarithms, Trigonometry and Circular Functions.

This study provides extended mathematical training for those students who wish to continue their studies in functions, algebra and calculus. Students choosing this subject generally intend to continue to a tertiary level of study which may require mathematics as a prerequisite for entry.

Mathematics – Advanced Mathematics 2

Advanced Mathematics 2 contains additional content suitable for development of a student's Mathematical background in preparation for further study of functions, algebra, calculus, statistics and trigonometry. Topics studied include Quadratic Functions and other Curves, Geometry and Probability.

Students satisfactorily completing Advanced Mathematics 2 may continue into VCE studying any combination of Units 1 and 2 Mathematics. You must have completed Advanced Mathematics 1 prior to attempting this unit.

Outcomes

For each semester, the student is required to demonstrate achievement of three outcomes. For each semester, the outcomes apply to the content from the areas of study selected for that semester. On completion of this semester:

- Students should be able to define and explain key concepts as specified in the selected content from the topics studied, and apply a range of related mathematical routines and procedures.
- Students should be able to select and apply mathematical facts, concepts, models and techniques from the topics covered in the semester to investigate and analyse extended application problems in a range of contexts.
- Students should be able to select and use numerical, graphical, symbolic and statistical functionalities of technology to develop mathematical ideas, produce results and carry out analysis in situations requiring problem-solving, modelling or investigative techniques or approaches.

Assessment

All assessments are school-based.

Demonstration of achievement of Outcomes 1, 2 and 3 will be based on the student's performance on a selection of the following assessment tasks:

- Tests
- Application/Problem Solving Tasks
- End of semester Examinations