

VCE FURTHER MATHEMATICS

UNITS 3 & 4

For more detail on this course please visit:

<https://www.vcaa.vic.edu.au/curriculum/vce/vce-study-designs/furthermathematics/Pages/Index.aspx>

GENERAL MATHEMATICS (BROAD SUBJECT OVERVIEW)

- Further Maths Units 3 and 4 is the continuation of General Mathematics Units 1 and 2.
- Unlike Methods and Specialist, which both feature higher level mathematical concepts such as calculus.
- Further Mathematics is focused primarily on math that can be used in everyday life. Consequently, it is accessible to almost all VCE students, irrespective of their mathematical background. Further Mathematics extends simple arithmetic skills developed in Year 9 and 10 by applying them to new contexts, which divide the course into two sections (Unit 3 and Unit 4).

CONTENT REQUIREMENTS FOR UNIT 3

- **Data analysis:** Covers a range of methods to categorise, analyse, present and interpret data sets.
- **Recursion and financial modelling:** Involves basic financial concepts, including depreciation, interest, interest rates, annuities and perpetuities.

CONTENT REQUIREMENTS FOR UNIT 4

The last two sections are known as the “application modules”. Unlike the core modules, there are four. However, each student will only complete **two** in the exam – usually the two that their school has elected to teach. These modules are studied in Unit 4, that we will teach at Warragul Region School and are:

- **Matrices:** Matrices are constructs used to store and manipulate information. This module covers the definition of a matrix, different types of matrices, matrix operations, transition matrices and the use of recurrence relations to model matrix-related problems.
- **Networks and decision mathematics:** A network is a set of objects that are connected. This module covers the definition and representation of various types of networks, and the use of networks to solve travel, connection, and optimisation problems.

The other two that are available are;

- **Geometry and measurement:** Focuses on the use of measurement, geometry and trigonometry to solve problems involving angles, lengths, areas and volumes.
- **Graphs and relations:** Involves the study of linear relations and non-linear relations to model a range of practical situations.



STUDY OUTLINE

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THE THREE OUTCOMES

Each assessment task will check that you have satisfactorily completed/demonstrated the following outcomes for that topic:

- **Outcome 1:** Student should be able to **define and explain key concepts and apply** related mathematical techniques and models as specified in Area of Study 1 in routine contexts.
 - **KNOW IT!**
- **Outcome 2:** Student should be able to **select and apply the mathematical concepts, models and techniques** as specified in Area of Study 1 in a range of contexts of increasing complexity.
 - **USE IT!**
- **Outcome 3:** Student should be able to select and appropriately **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.
 - **USE TECHNOLOGY TO HELP DO IT!**

ASSESSMENT UNIT

- The Assessment for the two units will be School Assessed Coursework or SAC's
 - Unit 3 – Core
 - Data analysis – with will be a 3 to 4 hour Investigation.
 - Contributes to 13% of final study score.
 - Recursion and Financial Modelling– this will be a 2- 3 hour problem-solving task. \
 - Contributes to 7% of final study score.
 - Unit 4 – Modules
 - A **problem-solving** task assessing the **first and second module**, spanning a duration of 2 to 3 hours each.
 - Each contributes to 7% of final study score.
 - Exams – There are two exams; one is multiple choice and the other is short answer questions.
 - Each Exam is worth 33% of the final study score.