
VCE UNITS INFORMATION

VCE Mathematics – Further Mathematics Units 3 and 4

CONTENT

Further Mathematics consists of two areas of study, a compulsory Core area of study to be completed in Unit 3 and an Applications area of study to be completed in Unit 4. The Core comprises ‘Data Analysis’ and ‘Recursion and Financial Modelling’. The Applications comprises two modules to be completed in their entirety, from a selection of four possible modules: ‘Matrices’, ‘Networks and Decision Mathematics’, ‘Geometry and Measurement’ and ‘Graphs and Relations’. Assumed knowledge and skills for the Core are contained in the General Mathematics Units 1 and 2 topics. For each module there are related topics in General Mathematics Units 1 and 2.

In undertaking this study, students are expected to be able to apply techniques, routines and processes involving rational and real arithmetic, sets, lists and tables, diagrams and geometric constructions, algebraic manipulation, equations, and graphs. They should have a facility with relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, geometric, symbolic, financial and statistical functionality of technology is incorporated throughout each unit.

OUTCOMES

The student is required to demonstrate achievement of three outcomes. As a set these outcomes encompass Area of Study 1 and the two selected modules from Area of Study 2, Applications.

- Students should be able to define and explain key concepts and apply related mathematical techniques and models as specified in Area of Study 1 and the two selected modules from Area of Study 2, in routine contexts
- Students should be able to select and apply the mathematical concepts, models and techniques as specified in Area of Study 1 and the two selected modules from Area of Study 2 in a range of contexts of increasing complexity
- Students 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

ASSESSMENT

School-assessed Coursework for Unit 3 and Unit 4 will contribute 20% and 14% respectively to the study score.

The level of achievement for Units 3 and 4 will also be assessed by two end-of-year examinations. The examinations will each contribute 33%.

Examination 1

This examination comprises multiple-choice questions covering both Areas of Study 1 and 2. The examination is designed to assess students’ knowledge of mathematical concepts, models and techniques and their ability to reason, interpret, and apply this knowledge in a range of contexts.

Examination 2

This examination comprises written response questions covering both Areas of Study 1 and 2. The examination will be designed to assess students’ ability to select and apply mathematical facts, concepts, models and techniques to solve extended application problems in a range of contexts.