Further Mathematics Unit 3 & 4

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 – 'Matrices' and 'Networks'. The Core unit covers 60% of the content covered for the year and 20% for each of the other two modules. Students will be expected to be able to apply techniques, routines and processes within these modules. They should also have relevant mental and by-hand approaches to estimation and computation. The use of numerical, graphical, symbolic, financial and statistical functionality of CAS technology (Calculator) for teaching and learning mathematics, for working mathematically, and in related assessment, is incorporated.

UNIT 3

The 'Core' comprises 'Data Analysis' and 'Recursion and financial modelling which covers 60% of the content covered for the year.

Data Analysis:

- investigating data distributions investigating associations between two variables
- investigating and modelling linear associations
- investigating and modelling time series data

Recursion and financial modelling

- Depreciation of assets
- Compound interest investments and loans
- Reducing balance loans
- Annuities and perpetuities
- Compound interest investment

Assessed tasks

SAC 1: CORE
SAC 2: RECURSION/FINANCIAL

UNIT 4

The Applications comprises two modules – 'Matrices' and 'Networks' which covers 40% of the content covered for the year (20% each)

Matrices:

This module covers the definition of matrices, different types of matrices, matrix operations, transition matrices and the use of first-order linear matrix recurrence relations to model a range of situations and solve related problems.

Networks:

This module covers definition and representation of different kinds of directed and undirected graphs, eulerian trails and circuits, bridges, Hamiltonian paths and cycles, and the use of networks to model and solve problems involving travel, connection, flow, matching, allocation and scheduling.

Assessed tasks

SAC 3: MATRICES
SAC 4: NETWORKS

VCAA ASSESSMENT – The overall Study Score will consist of:

Unit 3 School Assessed Coursework	20%
Unit 4 School Assessed Coursework	14%
Exam 1 Multiple Choice	33%
Exam 2 Extended Response	33%