GENERAL MATHEMATICS

WHAT TYPE OF SUBJECT IS GENERAL MATHEMATICS?

General Mathematics is a General subject that contributes to an Australian Tertiary Admission Rank (ATAR) calculation and to the attainment of a Queensland Certificate of Education (QCE).

WHAT IS GENERAL MATHEMATICS?

General Mathematics is designed for students who want to extend their mathematical skills beyond Year 10 but whose future studies or employment pathways do not require calculus. It incorporates a practical approach with topics of study that reflect this approach. Students will learn to ask appropriate questions, map out pathways, reason about complex solutions, set up models and communicate in different forms. They will experience the relevance of mathematics to their daily lives and communities. They will develop the ability to understand, analyse, and take action regarding social issues in their world from a mathematical perspective.

WHERE DOES THE STUDY OF GENERAL MATHEMATICS LEAD?

General Mathematics is a subject suited to students who are interested in pathways beyond school that lead to tertiary studies, vocational education or work. A course of study in General Mathematics can establish a basis for further education and employment in fields such as social science and the arts.

WHAT IS THE PREREQUISITE KNOWLEDGE FOR GENERAL MATHEMATICS IN YEAR 11?

The following is a list of some prerequisite knowledge that must be learnt or revised and maintained from Year 10 as required. This content is covered in Year 10 Mathematics and/or Year 10 Foundation Mathematics:

- Solve a range of problems using percentages, simple and compound interest, rates and ratios, surface area and volume, Pythagoras' theorem, simple algebraic fractions, linear and simple quadratic equations
- Understand the difference between numerical and categorical variables
- Calculate and compare measures of central tendency and measures of spread; determine quartiles, interquartile range (IQR) and range
- Construct back-to-back stem-and-leaf plots and histograms
- Construct, interpret, and compare box plots, histograms, and dot plots
- Use scatter plots to investigate and comment on relationships between two numerical variables
- Understand bivariate numerical data where the independent variable is time
- Solve right-angled triangle problems, using trigonometric ratios

All of the content from Units 1 and 2 is considered prerequisite knowledge for Units 3 and 4.

WHAT DO I STUDY?

The major domains of mathematics in General Mathematics are Number and Algebra, Measurement and Geometry, Statistics, and Networks, and Matrices. The topics of study are organised into units and students will study at least one full unit each semester, as set out below:

Unit 1: Consumer Arithmetic, Shape & Measurement, Linear Equations & their Graphs

Unit 2: Applications of Trigonometry, Algebra & Matrices, Univariate Data Analysis

Unit 3: Bivariate Data Analysis, Time Series Analysis, Growth & Decay in Sequences, Earth Geometry & Time

Unit 4: Loans, Investments & Annuities, Graphs & Networks, Networks, & Decision Mathematics

HOW AM I ASSESSED?

In Units 1 and 2, all assessment is formative. However, the assessment in Units 1 and 2 will model that which students will encounter in Units 3 and 4. In Units 3 and 4 each assessment's mark contributes to the overall grade in the subject (A to E) and the ATAR calculation. Tests will comprise short response questions that are simple familiar, complex familiar and complex unfamiliar in nature. A mark will be given in each assessment and weighted according to Queensland Curriculum and Assessment Authority (QCAA) guidelines.

The formative internal assessment for Units 1 and 2 comprise:

- One problem-solving and modelling task (20% weighting, Unit 1)
- An internal examination (15% weighting, Unit 1)
- An internal examination (15% weighting, Unit 2)
- Two internal examinations that will mimic the external examinations (50% weighting); Paper 1: simple familiar (30% weighting) and Paper 2: complex familiar and unfamiliar (20% weighting). Bothe papers will test content from Units 1 and 2.

The summative internal and external assessment for Units 3 and 4 comprise:

- A problem-solving and modelling task (20% weighting, Unit 3)
- An internal examination (15% weighting, Unit 3)
- An internal examination (15% weighting, Unit 4)
- Two external examinations (50% weighting); Paper 1: simple familiar (30% weighting) and Paper 2: complex familiar and unfamiliar (20% weighting). Both papers will test content from Units 3 and 4.

WHAT IS THE LEVEL OF TECHNOLOGY REQUIRED IN THIS SUBJECT?

Students will require a scientific calculator Ti-30XB Multiview for their examinations and Ti-Nspire CX software on their computers.