Senior General Subjects

General Mathematics

General Mathematics is designed for students who want to extend their mathematical skills beyond Year 10. It provides students the opportunity to be able to recognise everyday life problems that involve maths and may require mathematical analysis. Students will learn to ask appropriate questions, map out pathways, reason about complex solutions, set up models and communicate in different forms.

Structure:

Unit 1: Money, measurement and relations.

Unit 2: Applied trigonometry, algebra, matrices and univariate data.

Unit 3: Bivariate data, sequence and change, and Earth geometry.

Unit 4: Investing and networking

Mathematical Methods

Students who undertake Mathematical Methods will see the connections between mathematics and other areas of the curriculum and apply their mathematical skills to real-world problems, becoming critical thinkers, innovators and problem-solvers. Mathematical Methods is essential for students attending to study any mathematics based tertiary course, and is presumed knowledge for the study of Specialist Mathematics.

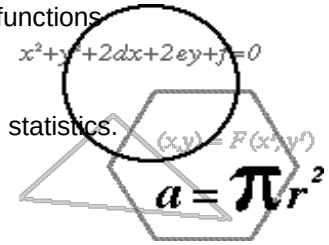
Structure:

Unit 1: Algebra, statistics and functions.

Unit 2: Calculus and further functions.

Unit 3: Further calculus

Unit 4: Further functions and statistics.



Specialist Mathematics

This subject is a basis for some mathematics based tertiary courses, e.g. Engineering, medicine, computer science and mathematics.

Students who undertake Specialist Mathematics will develop confidence in their mathematical knowledge and ability, and gain a positive view of themselves as mathematics learners.

Structure:

Unit 1: Combinatorics, vectors and Proofs.

Unit 2: Complex numbers, trigonometry, functions and matrices.

Unit 3: Mathematical Induction and further vectors, matrices and complex numbers.

Unit 4: Further calculus and statistical inference.

Senior Applied Subjects

Essential Mathematics

Essential Mathematics provides students with the maths needed for further education and employment in the fields of trade, industry, business and community services.

Structure:

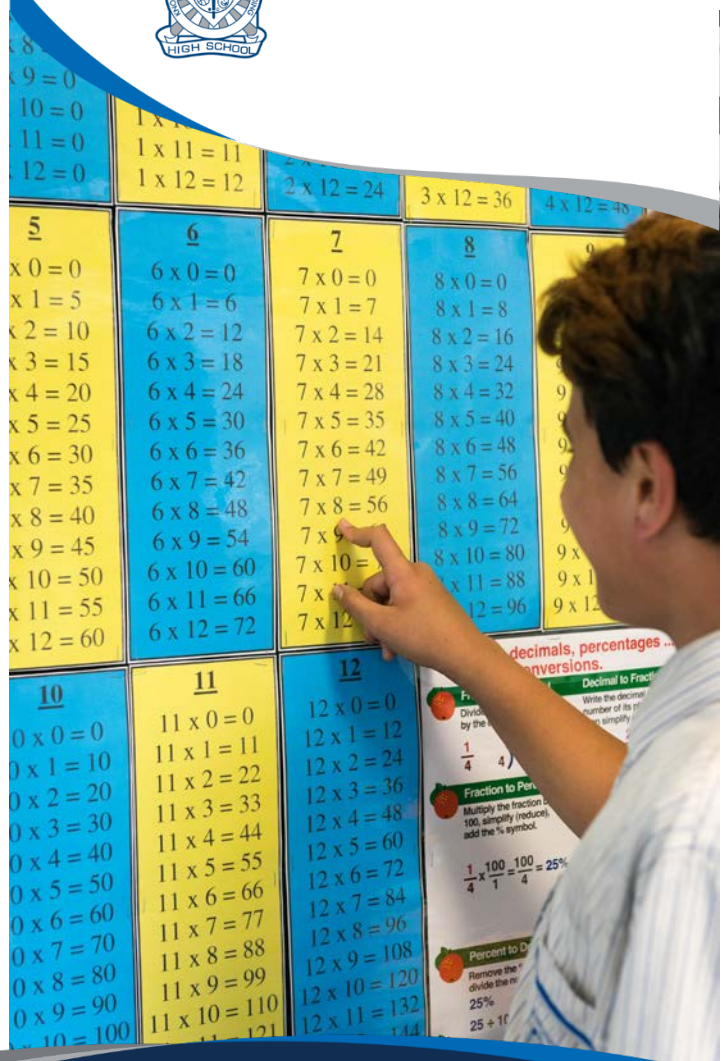
Unit 1: Number, data and Graphs

Unit 2: Money, travel and data

Unit 3: Measurement, Scales and data

Unit 4: Graphs, chance and loans.

Mathematics



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Year 9 Mathematics

Throughout Year 9 students will study the three content strands of Mathematics from the Australian Curriculum: Number and Algebra, Measurement and geometry, Statistics and Probability.

In Term 1 students will calculate the area of composite shapes, and determine the surface area of right prisms and cylinders. They will unpack the Index Laws, Scientific notation and how they can be generalised to apply to real-life contexts such as time and measurement.

Term 2 will examine linear and non-linear graphing. Students will begin by utilising the distributive law to expand and factorise binomial expressions. They will then sketch linear and non-linear relationships on a Cartesian plane.

In Term 3 students investigate geometric reasoning through the Pythagorean Theorem, Similar figures and triangles and Trigonometry. They will connect similar triangles to the study of trigonometry, followed by utilising the three basic trigonometric functions of tangent, sine and cosine.

To finish the year, students will examine the ways data is represented and develop the skills to interpret and make comment on various sets of data. Students will also investigate experimental probability, and compare and comment on probabilities using tree and Venn diagrams. Students will be able to analyse Mean, Median and Range to compare data.

Year 10 Mathematics

Throughout Year 10 students will study the three content strands of Mathematics from the Australian Curriculum: Number and Algebra, Measurement and geometry, Statistics and Probability.

In Term 1, students will solve problems involving right-angled triangles using Pythagoras and trigonometry.

Unit 2, investigates surface area, volume, geometric proofs, linear and non-linear equations.

Students will solve problems involving simple and compound interest in Term 3

Term 4 sees students investigating probability of two and three step experiments and solving problems involving ‘target’ games (eg. darts). Students will summarise data sets using five number summaries and boxplots. They will interpret and evaluate data, drawing conclusions based on statistics.

Year 10A Mathematics

For those students intending to study Mathematical Methods or Specialist Mathematics in year 11 and 12, it is recommended that they study the Year 10A Mathematics course in Year 10. This course is designed to cover the content from the Year 10 course together with preparation content for year 11.

The 10A Maths covers the content discussed above together with the following:

- Further trigonometry
- Circle Geometry
- Surds
- Logarithms

Assessment in Mathematics

Each year level from 7 to 12 will be assessed using the following assessment techniques:

- Written exam
- Problem Solving and Modelling tasks.

Mathematics Department

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#numeracyiseveryonesbusiness

“Wherever there is a number there is Beauty” Proclus