YEAR 10 CORE: MATHS METHODS

Maths Methods has been designed to build on previous studies in mathematics and provide a solid foundation for future studies in VCE Mathematical Methods. The course is intended to cater to students looking toward employment and further study in a variety of different fields, including finance, science, engineering, medicine and programming.

Students will require an approved CAS calculator as prescribed on the booklist.

SEMESTER 1

Students will build on their understanding of trigonometry, including solving problems involving angles of elevation and compass bearings. They will use the unit circle to define trigonometric functions, and graph them with and without the use of digital technologies. A variety of strategies to factorise monic and non-monic quadratic expressions will be explored and applied when solving problems involving these functions. Students will tackle problems involving surface area and volume for a range of prisms, cylinders, right pyramids, right cones, spheres and related composite solids. Students will define rational and irrational numbers and perform operations with surds and fractional indices. Index laws will be applied in the context of population growth and compound interest. Use of algebra to solve problems and generalise relationships between variables is a common theme throughout the course.

AREA OF STUDY

- Measurement
- Trigonometry
- Algebra
- Index Laws

SEMESTER 2

Students will solve problems involving gradients of parallel and perpendicular lines as well as investigating the processes involved for solving simultaneous linear equations, using algebraic and graphical techniques including using digital technology. Students will solve problems involving quadratic equations and their related graphs, with and without the use of digital technology. Quadratic functions will continue to be investigated and represented graphically and used to model situations and to solve practical problems. They will describe results of two and three-step chance experiments, both with and without replacements and determine probabilities of events. Students will investigate the concepts of independence, mutual exclusivity and conditional statements and identify common errors in interpreting such language in the area of probability.

AREA OF STUDY

- Linear Algebra and Graphs
- Quadratic Functions and Graphs
- Probability and Statistics