

## Pre-Apprenticeship & Trades Integrated VCAL - Numeracy.

### OVERVIEW

Students develop knowledge, skills and understanding relevant to the practical application of numeracy in the contexts of home, work and the community. They provide the numeracy skills and knowledge to build in the developmental aspects of the learning of mathematics required for all intermediate and senior Pre-Apprenticeship programs.

Students complete course work which also includes projects and assignments relevant to their subjects in Technology. They also complete an E-learning program, which is designed to improve overall maths skills and knowledge and also to prepare students for electronic testing, which is done by many apprenticeship programs.

Topics include number skills, measurement, shape, Pythagoras' Theorem, trigonometry, time, fractions and ratios. Students interpret plans and data, and also solve word-based problems and hands-on problems.

The core areas of study are Measurement, Algebra, Indices and Scientific and Engineering Notation, Geometry, Straight line graphs and Equations, Money and Financial Maths, Pythagoras's Theorem and Trigonometry.

By the end of the course students will be able to solve everyday problems involving rates, ratios and percentages. Students solve problems involving profit and loss. They make connections between expanding and factorising algebraic expressions. They make sense of time duration in real applications. Students use efficient mental and written strategies to carry out the four operations with integers. They simplify a variety of algebraic expressions. They solve linear equations and graph linear relationships on the Cartesian plane. Students convert between units of measurement for distance, area and volume. They name the features of circles and calculate the areas and circumferences of circles. Students solve problems involving simple interest. Students apply the index laws to numbers and express numbers in scientific and engineering notation. Students calculate perimeter, areas of shapes and the volume and surface area of right prisms and cylinders. They use Pythagoras' Theorem and trigonometry to find unknown sides of right-angled triangles.

Students will be well prepared for the numeracy skills and knowledge required for their chosen apprenticeship.

### ASSESSMENT

A range of formal assessment includes topic tests, coursework, projects relevant to the pre-apprenticeship program, assignments and E-learning tasks.

SUBJECT PREREQUISITES  
Successful completion of Year 10