

# MAT - BASIC MATHS FOR DIPLOMA

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## **MAT 100 Apply geometry and trigonometry and solve algebraic equations (4-0-4)**

This unit looks at arithmetic expressions, elementary algebra, rational and quadratic equations, linear and quadratic functions, logarithmic and exponential functions, and the application of scientific and engineering notation.

## **MAT 101 Solve problems in basic mathematics, trigonometry, complex numbers and calculus (6-0-6)**

This unit aims to develop students' ability to solve algebraic operations on numbers, exponents, roots and radicals, equations, inequalities, scientific notations, algebraic operations on expressions, solving formulas and literal equations. It also covers basic geometry and trigonometry.

## **MAT 102 Develop Knowledge on Basics of Probability and statistics (4-0-4)**

This module aims to provide learners with the knowledge and skills required to develop student understanding of the principal concepts in statistics and probability. Topics in probability include discrete random variables and probability distributions, continuous random variables and the Normal distribution. Topics in statistics include random sampling and data description, correlation and regression. The course will include the use of one of the following software packages (Excel, Minitab or Desmos) for implementing the concepts mentioned above.

## **MAT 210 Apply fundamental concepts and skills in algebra, geometry, and trigonometry (4-0-4)**

This unit covers both units "Algebraic equations" and "geometry and trigonometry". It covers basic algebraic operations on numbers, exponents, roots and radicals, equations, inequalities, scientific notations, algebraic operations on expressions, solving formulas and literal equations. It also covers geometry, functions and its graphs, trigonometry, radian measure, and oblique triangles, plotting trigonometric functions, solving system of linear equations and quadratic equations algebraically and graphically, matrix and its determinant, solving linear equations using the determinant (Cramer's rule),