Semester 1 Course Overview

Faculty: Mathematics **Subject:** Maths

Year level: 10 Core

Course Outline

Mathematics curriculum is built around the three content strands: Number and Algebra, Measurement and Geometry, and Statistics and Probability. The proficiency strands of Understanding, Fluency, Problem Solving and Reasoning are an integral part of content across the curriculum. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed and further provide the language to build in the developmental aspects of the learning of mathematics.

Term 1	Term 2
Unit 1: Number and place value & Financial mathematics	**Unit 3: Patterns and algebra**
Students solve problems involving linear equations and inequalities. They make the connections between algebraic and graphical representations of relations. Students solve surface area and volume problems relating to composite solids. They recognise the relationships between parallel and perpendicular lines. They find unknown values after substitution into formulas. Students list outcomes for multi-step chance experiments and assign probabilities for these experiments. **STATISTICS and PROBABILITY** **Chance** • List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events • Calculate relative frequencies from given or collected data to estimate probabilities of events involving 'and' or 'or' • Describe the results of two- and three-step chance experiments, both with and without replacements, assign probabilities to outcomes and determine probabilities of events. Investigate the concept of independence **NUMBER and ALGEBRA** **Patterns and Algebra** • Substitute values into formulas to determine an unknown **Linear and non-inear Relationships** • Solve problems involving linear equations, including those derived from formulas • Solve problems involving parallel and perpendicular lines **MEASURMENT AND GEOMETRY** **Using units of Measurement.** • Solve problems involving surface area and volume for a range of prisms, cylinders and composite solids.	Students make the connections between algebraic and graphical representations of relations. They expand binomial expressions and factorise monic quadratic expressions. Students solve simple quadratic equations. Students use trigonometry to calculate unknown angles in right-angled triangles. **STATISTICS and PROBABILITY** **Data Representation and Interpretation** • Collecting and using data using statistical graphs, box plots, standard deviation and summary statistics **NUMBER and ALGEBRA** **Patterns and Algebra** • Substitute values into formulas to determine an unknown • Expanding and factorising expressions • Factorising monic quadratic trinomials • Applications and solving quadratic equations using factorisation • Exploring Parabolas
Assessment	*Assessment*
EXAMINATION * short response items - single word, term, multiple choice * sentence or short paragraph responses * calculating using algorithms * drawing, labelling or interpreting graphs, tables or diagrams * justifying solutions using appropriate mathematical language where applicable	EXAMINATION * short response items - single word, term, multiple choice * sentence or short paragraph responses * calculating using algorithms * drawing, labelling or interpreting graphs, tables or diagrams * justifying solutions using appropriate mathematical language where applicable