MATHEMATICS 7-10 CURRICULUM OVERVIEW

	Year 7 STEM	Year 8 STEM	Year 9	Year 10

TERM 1 (Week 1 – Week 11)

Year 8 – Unit 1: Grapes, Ground and Growth
Students will discover the chemical changes used and minerals that influence the wine industry across the year and the mathematical impact on the population.

Year 9 – Unit 1: Real Number, Index Notation
Compare rational and irrational numbers. Identify positions on a number line. Use efficient methods for simplifying and solving problems involving exponent notation and laws in various contexts.

Year 9 – Unit 2: Probability
Students design experiments to represent likely outcomes of events, drawing conclusions to inform and predict decisions.

Year 10 – Unit 1: Probability
Quantify the likelihood of an event occurring and how the events interrelate to inform predictions and choices.

Year 10 – Unit 2: Measurement
Students Quantify aspects of the human and physical world through deducing and justifying choices of formulae to determine lengths, surface area and volume. Explain how the results of calculations depend on accurate measurement and how calculations are affected by using approximation.

Year 10 – Unit 3: Data representation and interpretation
Students Analyse trends and patterns in data, applying ethical considerations when making recommendations.

TERM 2 (Week 1 – Week 10)

Year 7 – Unit 3: Running a Business
Students will develop their financial literacy and awareness of algebraic concepts through developing a business

Year 7 – Unit 4: Product Design
Students will use three dimensional design to develop an innovative product design

Year 8 – Unit 2: Geology in Action
Students explore the rock cycle, plate tectonics and probability to investigate an important industry to the South Australian economy. Developing an understanding of the advancements in mining using robotics, artificial intelligence and other digital technologies.

Year 9 – Unit 3: Algebra
Students manipulate variables of functions algebraically to interpret solutions.

Year 9 – Unit 4: Geometry and Trigonometry
Deduce and justify choices of formulae to determine and quantify spatial relationships and trigonometric ratios. Communicate and justify solutions to geometrical problems using coordinates in the Cartesian plane. Express solutions to problems in exact and approximate form.

Year 10 – Unit 4: Networks
Students construct diagrams that represent relationships between entities, determine the optimum pathway, justify their choice and test in real situations.

Year 10 – Unit 5: Linear Relationships
Students manipulate algebraic equations to illustrate and model the nature of relationships between variables. Apply algebraic relationships to inform behaviours and decisions in real-life contexts.

TERM 3 (Week 1 – Week 10)

Year 7 – Unit 5: Our Place in Space
Students will explore our place in space and design a mission to Mars based on their understanding of measurement and coding.

Year 7 – Unit 6: Illuminate
Students will design and develop showpieces for the Illuminate festival, grounded in STEM

Year 8 – Unit 3: Powering South Australia
Students will investigate the algebraic patterns and linear relationships of securing different energy types and transformations for the people of South Australia.

Year 8 – Unit 4: Illuminate
Students will design and develop showpieces for the Illuminate festival, grounded in STEM

Year 9 – Unit 5: Equations and Functions
Students use mathematical modelling in a range of contexts, including making predictions and developing insights about the economy, financial systems and financial choices to inform personal financial decisions.

Year 9 – Unit 6: Graphing
Students Communicate and justify solutions to geometrical problems using coordinates in the Cartesian plane. Manipulate variables of functions and represent real situations graphically and algebraically to interpret solutions to inform behaviours and decisions.

Year 10 – General and Methods

Unit 1: Bivariate statistics
Students analyse trends and patterns in data, applying ethical considerations when making recommendations

Unit 2: Geometry
Students engage with geometric problems and explain their mathematical thinking as they draw conclusions through analysing and quantifying geometric properties.

Year 10 – Essentials

Unit 1: Number Operations, Time, Ratios
Students extend their proficiency with calculations required for everyday living.

Unit 2: Geometry
Students name a variety of common two-dimensional and three-dimensional (2D and 3D) figures and classify them according to their geometric properties. They learn to measure and classify angles, and use instruments to construct geometrical figures. They identify the geometry involved in structures in the built environment and landscapes.

TERM 4 (Week 1 – Week 9)

Year 7 – Unit 8: Personal Passion Project
Students are to complete a project based on what they are passionate about

Year 8 – Unit 5: Living Better
Students will explore the advancements in technologies that impact human physiology and draw conclusions using statistical knowledge.

Year 8 – Unit 6: Mastery of Math Skills
Students will review the development of their mathematical knowledge and skills throughout the year.

Year 9 – Unit 7: Statistics
Students use sampling techniques and representations of data to support or refute conclusions or to promote a point of view.

Year 9 – Unit 8: Measurement
Students explain how the results of calculations depend on accurate measurement and how they are affected by using approximation. Deduce and justify choices of formulae to determine and quantify spatial relationships.

Year 10 General and Methods – Unit 3: Equations and Functions
Students use mathematical modelling in a range of contexts, including making predictions and developing insights about the economy, financial systems and financial choices to inform personal financial decisions. Apply algebraic relationships to inform behaviours and decisions in real-life contexts.

EXAM Preperation

Year 10 Essentials – Unit 3: Earning and Spending
Students understand the different ways of being paid for work and the impact of taxation on their income. They learn to manage the spending of their earnings through budgeting.

*Please note: The Unit order may alter due to facility and resource availability