

Year 10 Mathematics (Core)
Learning and Assessment Overview 2021

Semester 1		Semester 2	
MAT 10.01 Algebra and Linear Modelling, Data Representation and Interpretation		MAT 10.02 Three-Dimensional Objects & Linear and Non-Linear Relationships	
<p>Patterns and Algebra [Number and Algebra] – expand and factorise linear expressions and expand binomial products, simplify algebraic products and quotients using index laws, apply the four operations to algebraic fractions, manipulate expressions and equations to solve problems involving algebraic fractions, formulate and solve problems involving algebraic fractions and linear equations, including those derived from formulae</p> <p>Statistics [Statistics and Probability] – develop an understanding of statistical measures of centre and spread to describe data sets, analyse data displays (box plots, histograms and scatter plots) to make generalisations, calculate statistical measures of data sets, graphically represent relationships, draw a line of best fit, apply known strategies to compare data, manipulate reports and data displays to identify trends, use statistical measures to analyse data and reports.</p>		<p>Units of Measurement [Measurement and Geometry] – understanding and calculating surface area and volume from simple solids to composite solids, including cones, pyramids and spheres.</p> <p>Linear and Non-Linear Relationships [Number and Algebra] – explore connections between algebraic and graphical representations; make generalisations in relation to parallel and perpendicular lines; identify the solution to two intersecting linear equations; apply graphical and substitution methods to find solutions and solve contextualised problems and solving simultaneous equations</p>	
MAT 10.03 Algebra and Non-Linear Modelling, Money and Financial Mathematics Chance		MAT 10.04 Geometric Reasoning & Pythagoras and Trigonometry	
<p>Patterns and Algebra [Number and Algebra] – factorising monic quadratics, factorising quadratic functions of the form $x^2 + bx + c$, and solving related quadratic equations, sketching quadratic functions and solving simple equations arising from formulas</p> <p>Money and Financial Mathematics [Number and Algebra] – connecting the compound interest formula to repeated applications of simple interest, using algebraic and graphical techniques.</p> <p>Chance [Statistics and Probability]– understanding chance, recognising that an event can be dependent on another event and that this will affect the way its probability is calculated, using two-way tables and Venn diagrams to understand conditional statements, using arrays and tree diagrams to determine probabilities and investigating claims that can be tested using concepts from statistics and conditional probability.</p>		<p>Geometric Reasoning [Measurement and Geometry] – understanding similarity and congruence and formulating proofs using congruence and angle properties and applying proofs and reasoning to circles.</p> <p>Pythagoras and Trigonometry [Measurement and Geometry] – solving problems involving angles of elevation and depression, solve problems involving angles of elevation and depression, establishing the sine, cosine and area rules, applying the unit circle to define trigonometric functions and graphs and solving trigonometric equations.</p>	
Unit Duration		Unit Duration	
Weeks 1 - 10 (10 weeks)		Weeks 11 - 20 (10 weeks)	
Unit Duration		Unit Duration	
Weeks 21 - 30 (10 weeks)		Weeks 31 - 38 (8 weeks)	
Assessment Task/s		Assessment Task/s	
<p>MAT 10.01.01 Learning Log & Test <i>Technique:</i> Extended Response + Examination <i>Mode:</i> Short response items <i>Conditions:</i> 60 mins</p> <p><i>Issued:</i> n/a <i>Due:</i> Week 10</p>	<p>MAT 10.02.01 Test <i>Technique:</i> Examination <i>Mode:</i> Short response items <i>Conditions:</i> 60 mins</p> <p><i>Issued:</i> n/a <i>Due:</i> Week 15</p>	<p>MAT 10.02.02 Assignment <i>Technique:</i> Extended Response <i>Mode:</i> Written + Practical <i>Conditions:</i> 2 weeks classtime, 400-600 words</p> <p><i>Issued:</i> Week 15 <i>Due:</i> Week 20</p>	<p>MAT 10.03.01 Learning Log <i>Technique:</i> Extended Response <i>Mode:</i> Written + Practical <i>Conditions:</i> 2 weeks classtime, 400-600 words</p> <p><i>Issued:</i> Week 24 <i>Due:</i> Week 26</p>
		<p>MAT 10.03.02 Assignment <i>Technique:</i> Extended Response <i>Mode:</i> Written + Practical <i>Conditions:</i> 2 weeks classtime, 400-600 words</p> <p><i>Issued:</i> Week 25 <i>Due:</i> Week 30</p>	<p>MAT 10.04.01 Learning Log & Test <i>Technique:</i> Extended Response + Examination <i>Mode:</i> Short response items <i>Conditions:</i> 60mins</p> <p><i>Issued:</i> n/a <i>Due:</i> Week 38</p>