Year	Term	Week	Hours	Chapter: Topic	Topic break-down (sub-topics)	Learning Objectives: Students will be able to:
Year 11 Higher Mathematics Curriculum Paln	Term 1 – Module 1 and 2	1	4	Review and revision 10		
		2 – 4	10	18: Sampling and more complex diagrams	18.1 Collecting data	Understand sampling. Collect unbiased reliable data for a sample.
					18.2 Frequency polygons	Draw and interpret frequency polygons.
					18.3 Cumulative frequency graphs	Draw and interpret cumulative frequency graphs.
					18.4 Box plots	Draw and interpret box plots.
					18.5 Histograms	Draw and interpret histograms where the bars are of equal width. Draw and interpret histograms where the bars are of unequal width. Calculate the median, quartiles and interquartile range from a histogram.
		5 – 6	7	19: Combined events	19.1 Addition rules for outcomes of events	Work out the probability of different outcomes of combined events.
					19.2 Combined events	Work out the probability of two outcomes or events occurring at the same time.
					19.3 Tree diagrams	Use tree diagrams to work out the probability of combined events.
					19.4 Independent events	Use the connectors 'and' and 'or' to work out the probabilities for combined events.
					19.5 Conditional probability	Work out the probability of combined events when the probabilities change after each event.
		7	3	Review and revision 11		
		8 – 9	Half Term Break			
		1	4	Algebra recap and review		
		2 – 3	7	20: Properties of circles	20.1 Circle theorems	Prove and use circle theorems to work out angles created in a circle from points on a circumference.
					20.2 Cyclic quadrilaterals	Find the size of angles in cyclic quadrilaterals.
					20.3 Tangents and chords	Use tangents and chords to find the size of angles in circles.
					20.4 Alternate segment theorem	Use the alternate segment theorem to find the size of angles in circles.
		4 – 5	7	21: Variation	21.1 Direct proportion	Solve problems where two variables have a directly proportional relationship. Work out the constant of proportionality.
					21.2 Inverse proportion	Solve problems where two variables have an inversely proportional relationship. Work out the constant of proportionality.
		6	3	Mock examinations and revision		
		7	4	Mock examinations and revision		
		8 – 9	Christmas Break			
	Term 2 – Module 3 and 4	1 – 2	7	22: Triangles	22.1 Further 2D problems	Use trigonometric ratios and Pythagoras' theorem to solve more complex two-dimensional problems.
					22.2 Further 3D problems	Use trigonometric ratios and Pythagoras' theorem to solve more complex three-dimensional problems.
					22.3 Trigonometric ratios of angles between 0° and 360°	Find the sine, cosine and tangent of any angle from 0° to 360°
					22.4 Solving any triangle	Use the sine rule and the cosine rule to find sides and angles in any triangle
					22.5 Using sine to calculate the area of any triangle	Work out the area of a triangle if you know two sides and the included angle.
		3 – 4	7	23: Graphs	23.1 Distance–time graphs	Interpret distance–time graphs Draw a graph of the depth of liquid as a container is filled.
					23.2 Velocity–time graphs	Read information from a velocity–time graph. Work out the distance travelled from a velocity–time graph. Work out the acceleration from a velocity–time graph.
					23.3 Estimating the area under a curve	Use areas of rectangles, triangles and trapeziums to estimate the area under a curve. Interpret the meaning of the area under a curve.
		5 – 6	3	Review and revision 12		
		7	Half Term Break			
		1 – 4	11	23: Graphs	23.4 Rates of change	Draw a tangent at a point on a curve and use it to work out the gradient at a point on a curve. Interpret the gradient at a point on a curve.
					23.5 Equation of a circle	Find the equation of a tangent to a circle.
					23.6 Other graphs	Recognise and plot cubic, exponential and reciprocal graphs.
					23.7 Transformation of the graph $y = f(x)$	Transform a graph

	Week	Lessons	Topic	Subtopic	Objectives
	5 – 6	7	**24: Algebraic fractions and functions**	24.1 Algebraic fractions	Simplify algebraic fractions Solve equations containing algebraic fractions.
				24.2 Changing the subject of a formula	Change the subject of a formula where the subject occurs more than once.
				24.3 Functions	Find the output of a function. Find the inverse function.
	7	4	**Review and revision 13**		
	8 – 9		**Easter Break**		
Term 3 – Module 5 and 6	1 – 2	7	**24: Algebraic fractions and functions**	24.4 Composite functions	Find the composite of two functions.
				24.5 Iteration	Find an approximate solution for an equation using the process of iteration.
	3– 4	7	**25: Vector geometry**	25.1 Properties of vectors	Add and subtract vectors.
				25.2 Vectors in geometry	Use vectors to solve geometric problems.
	5 – 6	7	**Revision**		
	7		**Half Term Break**		
	1 – 2	7	**Revision**		
	3	3	**June examinations**		
	4	4	**June examinations**		