

Year 12 Level 3 Mathematical Studies Curriculum Sequence

Subject Intent: For every learner to be confident and fluent mathematicians who enjoy and succeed in mathematics, leaving school with a solid foundation of mathematical skills, knowledge and understanding, primed for their chosen fields in the 21st century.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Big idea/Theme	Analysis of Data	Personal Finance	Modelling and Estimation	Graphical Methods	Rates of Change and Exponential Functions	Revision of all topics studied this year
Knowledge that needs to stick	<ul style="list-style-type: none"> Types of data Data collection Sampling Representation of data Representing data diagrammatically. 	<ul style="list-style-type: none"> Budgeting Income Tax Debt APR Mortgages Savings and Investments VAT 	<ul style="list-style-type: none"> The modelling cycle Fermi Estimation Standard Form Estimation by scaling and subdividing Stating Assumptions. 	<ul style="list-style-type: none"> Graph Sketching Solving Equations graphically 	<ul style="list-style-type: none"> Gradient – linear and quadratic Average Speed Speed and acceleration Exponential functions and graphs The number e Exponential growth and decay 	All of the aforementioned topics.
Links to key stage 4 prior knowledge needed	Data Handling cycle. Most of this unit has been taught in KS4 and simply needs re-visiting with a greater focus on comparing different graphs and in particular comparing proportions.	Percentages: compound, simple, reverse. Substitution into formulae.	Rounding to significant figures.	Some of the content would have been covered if the student studied the higher paper. Ascertain tier of entry before teaching this unit. Topics previously taught are sketching graphs,	Some of the content would have been covered if the student studied the higher paper. Ascertain tier of entry before teaching this unit. Topics previously taught are calculating speed from a graph and	As mentioned in previous units.

				solving equations from graphs.	an introduction to exponential functions.	
--	--	--	--	-----------------------------------	---	--