Maths

KS5 Curriculum Plan 2024-2025

Year 12		LP1	LP2	LP3	LP4	LP5
	TOPIC					
		Pure Mathematics – Algebraic manipulation, indices and surds, quadratic equations, graphs of functions, inequalities, simultaneous equations. Statistics - sampling, types of data, averages, quartiles, percentiles, standard deviation, variance, box plots and cumulative frequency.	Pure Mathematics - cubic graphs, quartic graphs, transformations of functions, straight line graphs, polynomial division, The Factor Theorem, proof. Statistics - histograms, scatter graphs, Venn diagrams, tree diagrams, probability distributions, hypothesis testing.	Pure Mathematics - equation of circles, cosine rule, sine rule, area of triangles, trigonometric functions, differentiation and integration,	Pure Mathematics - vectors, trigonometric identities and equations. Mechanics - equations of motion, velocity-time graphs, Resolving forces.	Pure Mathematics - exponentials and logarithms, modelling, partial fractions, sequences and series, using radians. Mechanics - connected particles, variable acceleration.
	Skills	Use appropriate knowledge and methodology for new algebra and geometry concepts and apply them in a range of modelling problems in different contexts. Use appropriate statistical notation and interpret statistical answers in the context of a variety of problems including the Edexcel large data set. Draw clear diagrams and use them to set up the equations required to solve problems. Recognise the limitations of the models used to answer a variety of problems in context. Use appropriate knowledge and methodology for new algebra and geometry concepts and apply them in a range of modelling problems in different contexts. Use appropriate statistical notation and interpret statistical answers in the context of a variety of problems including the Edexcel large data set. Use appropriate calculus skills and apply them to non-constant acceleration problems.				
	Key Vocab	Rationalise, discriminant, simultaneous, standard deviation, sampling.	Cubic, quartic, transformation, probability, correlation, hypothesis.	Circle, cosine, sine, tangent, identity, vectors, differentiation, integration.	Integration, calculus, vector, modelling, acceleration, velocity, forces, Newton.	Acceleration, velocity, forces, Newton, exponential, logarithm, radian..

Year 13		LP1	LP2	LP3	LP4	LP5
	TOPIC					
	Knowledge	Pure Mathematics - sequences, series, radians, trigonometric functions, partial fractions, binomial expansion. Statistics - regression, correlation, conditional probability, normal distribution.	Pure Mathematics - partial fractions, algebraic fractions, trigonometry and modelling, differentiation. Statistics - The Normal distribution.	Pure Mathematics - functions and graphs, parametric equations, 3D vectors Mechanics - moments, forces,	Pure Mathematics - parametric equations, numerical methods, integration. Mechanics - friction, projectiles, forces, variable acceleration.	
	Skills	Use appropriate knowledge and methodology for new algebra and geometry concepts and apply them in a range of modelling problems in different contexts. Use appropriate knowledge and methodology for the new concept of moments and friction. Recognise the limitations of the models used to answer a variety of problems in context. Use appropriate knowledge and methodology for new number, algebra and geometry concepts and apply them in a range of modelling problems in different contexts. Use appropriate statistical notation and interpret statistical answers in the context of a variety of problems including the Edexcel large data set. Review topics to consolidate mathematical understanding and how to apply this knowledge appropriately in the context of the exam. Use appropriate knowledge and methodology for the extended concepts of projectiles, friction and non-constant acceleration. Recognise the limitations of the models used to answer a variety of problems in context.				
	Key Vocab	Sequence, series, arithmetic, geometric, radians, arc length, sector, trigonometry, reciprocal functions, normal distribution, correlation, regression.	Partial fractions, sine, cosine, tangent, addition formulae, chain rule, product rule, quotient rule, probability, distribution.	Modulus, composite functions, transformations, parametric, integration by substitution, Inclined plane, projectiles, forces.	Parametric equations, Newton-Raphson, integration, vectors, integration by parts, Trapezium rule, differential equations.	