Mathematics Department

Curriculum Maps

Sixth Form Mathematics

	Term 1	Term 2	Term 3
	A LEVEL MATHEMATICS		
Year 12	**Pure 1:** Algebraic Expressions, Quadratics, Equations and Inequalities, Graphs and Transformations Further algebra Binominal expansion Straight line graphs and Circles Vectors 2D Vectors 3D (Yr2)	**Pure 1:** Trigonometry Radians Differentiation Integration Algebraic methods Exponential and logarithms	**Pure 1:** Exponential and logarithms **Pure 2:** Numerical methods Sequences and series Binominal expansion Functions and graphs
Year 13	**Pure 2:** Trigonometric functions Trigonometry and modelling Parametric equations Differentiation **Mechanics 1:** Kinematics Forces and motion Variable Acceleration **Statistics 1:** Data Collection Data Processing and Interpretation Probability Statistical Distribution Hypothesis testing	**Pure 2:** Differentiation Integration **Mechanics 1 and 2:** Moments Friction Projectiles Application of forces Further kinematics **Statistics 1 and 2:** Hypothesis testing Conditional probability Normal distribution	**Mechanics 2:** Further kinematics Examination Preparation

	A LEVEL FURTHER MATHEMATICS		
Year 12	**Core Pure 1:** Complex numbers Argand diagrams Matrices Linear Transformations **Decision 1:** Algorithms Graphs and Networks Algorithms on graphs Linear Programming The simplex algorithm	**Core Pure 1:** Roots of polynomials Volumes of revolution Series Proof by induction Vectors **Decision 1:** Route inspection The travelling salesman Critical Path Analysis	**Core Pure 1:** Radians Trigonometric functions Trigonometric modelling Differentiation and Integration (excluding parametric differentiation/integration) Core Pure 1 and Decision 1 – end of year exams preparation
Year 13	**Core Pure 2:** Integration Yr2 chp 11 and Differentiation Yr2 Chp 9 (Pure) Complex numbers Series Methods in Calculus **Further Mechanics 1:** Momentum and impulse Work, energy and power	**Core Pure 2:** Hyperbolic Functions Volumes of revolution Polar coordinates Methods in differential equations Modelling with differential equations **Further Mechanics 1:** Work, energy and power. Elastic strings and springs. Elastic collisions in one dimension. Elastic collisions in two dimensions. **Examination Preparation:** Decision 1 and Further Mechanics 1 revision.	**Examination Preparation:** Decision 1 and Further Mechanics 1 revision. Core Pure 1 and 2 revision.
	MATHEMATICAL STUDIES (CORE MATHS)		
Year 12	Introduction to spreadsheets, Types of Data and Collecting Data Numerical Calculations and Percentages Fermi estimation Representing data numerically and diagramatically	Equation of a straight line Collecting and sampling data Critical path analysis Solution to financial problems Perimeter, Circumference and Area	Perimeter, Circumference and Area Pythagoras and similarity Analyse critically Surface area and similarity

	Interest rates Equation of a straight line		
Year 13	Project work – Personal Finance or Analysis of Data Representing data diagramatically and numerically Graphical representations Critical path and Risk Analysis – Expectation Repayments and credits Taxation and VAT	Taxation and VAT Limits of accuracy Critical path and Risk Analysis – cost benefit analysis Taxation: Income Tax Analyse Critically	Examination Preparation