Year 11 Maths Parallel Curriculum Overview

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Unit of Work	• Algebraic notation • Indices and standard form • Brackets (expand and factorise)	• Linear graphs and sequences • Fractions, decimals and ratio • Angles and bearings • Percentages, growth and decay	• Averages, Charts and graphs • Solve and rearrange equations	• Percentages, growth and decay • Area, surface area and volume • Transformations		
Ethos Links	STEM – algebra and standard form are used extensively in science, engineering and computing.	Financial literacy – ratio and percentages support best buys, scale, interest and growth. STEM – bearings and graphs support navigation and modelling.	STEM – statistics support analysis of real data. Milton Keynes and Sustainability – charts and graphs can model local growth and environmental trends.	Financial literacy – growth and decay model interest and depreciation. Sustainability – area, surface area and volume connect to efficient packaging. STEM – transformations support design and scale models.		

KS4 Curriculum Overview: Maths

Knowledge By the end of this unit students will know and understand:	• Algebraic notation • Use algebraic vocabulary and notation; substitute positive/negative values; collect like terms; substitute fractions/decimals at greater depth. • Indices and standard form • Understand powers and index laws; write large/small numbers in standard form and convert to ordinary form. • Brackets (expand and factorise) • Expand single brackets including negative coefficients; factorise single brackets; expand two	• Linear graphs and sequences • Plot coordinates and y=mx+c graphs; identify/continue sequences; find nth terms and recognise geometric/Fibonacci sequences. • Fractions, decimals and ratio • Use four operations with fractions; solve ratio/proportion problems including best buys and scale; share in ratios and convert ratios to fractions. • Angles and bearings • Use angle facts; measure/draw angles; understand and calculate bearings. • Percentages, growth and decay	• Averages, Charts and graphs • Distinguish discrete/continuous data; construct statistical charts; calculate mean, mode, median and range; construct scatter graphs and identify correlation. • Interpret time-series graphs; draw lines of best fit and understand interpolation/extrapolation limitations. • Solve and rearrange equations • Solve one-step and multi-step equations; solve unknowns on both sides and equations with brackets; change the subject of simple formulae.	• Percentages, growth and decay • Use percentage multipliers and solve reverse percentage problems. • Area, surface area and volume • Calculate area of common 2D shapes and circles, perimeter, and volume/surface area of cuboids. • Transformations • Rotate, reflect, translate with vectors and enlarge shapes; combine and describe transformations; use fractional scale factors.		

	brackets at greater depth.	• Find percentages including over 100%; use multipliers for increase/decrease; solve reverse percentages.				

KS4 Curriculum Overview: Maths

Skills	• Use algebraic notation and substitution. • Apply index laws and standard form. • Expand and factorise expressions. Learning habits • Making links and applying knowledge • Problem solving • Noticing • Resilience • Perseverance	• Plot linear graphs and work with sequences. • Calculate with fractions and ratio. • Use angles, scales and bearings. • Apply percentage multipliers and reverse percentage methods. Learning habits • Listening • Questioning • Making links and applying knowledge • Problem solving • Resilience • Communication	• Construct and interpret statistical representations. • Calculate averages and analyse scatter graphs. • Solve and rearrange linear equations. Learning habits • Collecting and using data • Analysis and evaluation • Reasoning and making judgements • Communication • Noticing	• Solve percentage change problems. • Calculate perimeter, area, volume and surface area. • Perform and describe transformations accurately. Learning habits • Making links and applying knowledge • Problem solving • Thinking • Reasoning and making judgements • Planning and organisation	Consolidate taught content in preparation for GCSE examinations. Learning habits • Self-regulation • Learning from mistakes • Perseverance	Apply knowledge independently in GCSE examinations.
Key Vocabulary	Variable Expression Coefficient Index Standard form Expand Factorise	Gradient Intercept Sequence Nth term Fraction Ratio Proportion Bearing Percentage Multiplier Growth	Discrete Continuous Mean Median Mode Range Scatter graph Correlation Equation Inverse Subject	Percentage Multiplier Growth Decay Area Perimeter Volume Surface area Rotation Reflection Translation		

KS4 Curriculum Overview: Maths

		Decay		Enlargement		
Assessment	Homework Questioning Topic assessment / blue sheet where indicated PR1 / formal assessment point	Homework Questioning Topic assessment / blue sheet where indicated	Homework Questioning Topic assessment / blue sheet where indicated PR2 / formal assessment point	Homework Questioning Topic assessment / blue sheet where indicated PR3 / mock assessment point	Homework Questioning Mock examinations and GCSE preparation	GCSE examinations
Assessment	Formal assessments take place throughout the year and assess learning up to that point. Year 11 assessment includes mock examinations and final GCSE examinations.					