Stage 7		Subject Knowledge introduced / developed / revised								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics
	Term 1	Properties of numbers including primes, hcf and lcm, square and cube	4 operations including powers of 10 and decimal calculations							
	Term 2	Rounding numbers to decimal places and significant places and estimating			Rotational symmetry in polygons. Labelling angles and lengths. Construction of triangles. Nets of 3D shapes. Angle calculations.	Comparing whole numbers and fractions using common denominators				
	Term 3			Simplify expressions. Substitution. Expanding single brackets. Linear sequences and term to term rules.		Expressing quantities as a fraction and a % of another number.	Use ratio notation. Simplify ratios. Divide into a ratio.			
	Term 4					Calculating with fractions including mixed numbers.				
	Term 5			Solve different step equations including with brackets		% of amounts and increase/decrease by a %. Calculate % change.		Measure lines and angles. Convert between units of measure.	Properties of angles including on a line, at a point and vertically opposite	
	Term 6							Caculate the area of 2D shapes. Volume and surface area of cuboids	Shapes in coordinates. X = and y = lines. Transformations.	Bar charts. Pie charts. Frequency tables. Averages.
	Opportunities to develop 'Respectful attitudes / Inclusion and Diversity	Inherent within the lessons								
	Links to 'Destinations and Employability'									
	Enrichment Opportunities offered or developed	Extension questions and applications to real life								

Stage 8		Subject Knowledge introduced / developed / revised								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
	Term 1	Prime factors. LCM and HCF from prime factors. Standard form. Significant figures 1 and 2.	4 operations with negative numbers. Order of operations including powers and roots						Enlargements using positive s.f. Scale drawings and bearings.	
	Term 2			Simplifying expressions with different variables. Factorise expressions. Laws of indices. Substitution including negative values. Change the subject of a formula one and two step.		Terminating and recurring decimals. Simplifying fractions. Decimal/fraction equivalents				Probability scale. Total probability 1. Writing as a fraction.
	Term 3			Generating a sequence. Using nth term to deduce and finding nth term of linear sequence.			Multipliers in proportion. Ratios in mixing. Ratio and fraction.Recipes. Unit pricing. Compound units. Speed			
	Term 4			Solving equations including positive, negative and fractional solutions. Intersection of two linear graphs.		% increase/decrease using multipliers. Simple interest. Original price.			Alternate and corresponding angles in parallel lines. Angles in triangles. Interior and exterior angles in polygons.	
	Term 5			Plot linear graphs. Find gradient and y intercept values. Quadratic graphs. Time-distance graphs.	Vocabulary of circles. Area and circumference. Composite shapes. Volume of cylinder and prisms. Compare lengths, areas and volumes.					
	Term 6									Venn diagrams sorting and notation. Space diagrams. Frequency trees. Experimental and theorectical probability. Presentation of data. Averages from frequency tables.
	Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity	Inherent within the lessons								
	Links to 'Destinations and Employability'									
	Enrichment Opportunities offered or developed	Extension questions and applications to real life								

Stage 9

Subject Knowledge introduced / developed / revised									
Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
Term 1		Calculating with positive and negative indices in standard form. Standard form calculations. Maximum and minimum values using error intervals.	Expand double brackets including coefficients of x > 1. Factorise quadratic expressions.				Use compasses to construct perpendicular bisectors, angle bisectors, 2D shapes and loci. Use scale drawing.		
Term 2			Prove that two expressions are equivalent. Create an expression or a formula to describe a situation.						
Term 3			Fibonacci sequences. Generate quadratic sequences from nth term. Solve linear inequalities.			Direct and inverse proportion. Problem solving with inverse proportion. Density, pressure and speed calculations. Lengths in similar shapes.			
Term 4			Calculate gradients including from two coordinates. Calculate the equation of a straight line. Plot cubic, quadratic and reciprocal graphs.Distance, speed and acceleration.	Circle vocabulary. Arc length. Area of sector and find angle within a sector. Surface area of prisms including cylinders. Pythogoras theorem. Angles proofs.					
Term 5			Find graphical solutions to simultaneous equations.Derive simultaneous equations and solve algebraically.						
Term 6									Probability of independent and combined events. Use treee diagrams to solve dependent and independent combined events. Relative frequency and theorectical probability. Presentation of data.
Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity	Inherent within the lessons								
Links to 'Destinations and Employability'									
Enrichment Opportunities offered or developed	Extension questions and applications to real life								

Year 10 pathway 1 Year 10 pathway 1 Higher Tier trajectory Students		Subject Knowledge introduced / developed / revised Year 10 pathway 1 Higher Tier trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics
	Term 1		Estimation. Index notation. Iteration	Simultaneous equations	Pythagors. Trigonometric ratios. Exact values. Bearings					
	Term 2		Introduction to surds	Factorising all quadratics. Al;gebraic fractions. Expanding 3 binomial. Changing the subject.			Direct and indirect proportion. All aspects of ratio. Compound measures.		Transformations	
	Term 3			Quadratic sequences. Geometric progressions. Linear equations and inequalities.	3d Pythagoras. Circle sectors. Volume and surface area. Volume, area and linear scale factors					
	Term 4		Velocity time graphs	Algebraic proofs. Plottiong non standard graphs.	Circle theorems.					
	Term 5		Product rule.	Solving quadratics - algebraically and graphically.		Recurring decimals. Compound interest, growth and decay.Repeated percentage change.				Venn diagrams
	Term 6			Parallel/Perpendicula lines. Equation of a circle.					Vectors	Sampling. Capture recapture. Box plots. Cumulative frequency.
	Opportunities to develop 'Respectful attitudes / inclusion and Diversity									
	Links to 'Destinations and Employability'	Pathway 1; A level maths, further maths. Allows access into all degree courses. Focus on Engineering, Science based subjects, Accountancy, Economics. Logic, attention to detail and problem solving are addressed tthroughout.								
	Enrichment Opportunities offered or developed									

Year 11 pathway 1 Higher Tier trajectory Students		Subject Knowledge introduced / developed / revisedYear 11 pathway 1 Higher Tier trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
	Term 1		Surds	Quadratic formula. Completing the square. Problem solving quadratics. Iteration	3d Pythag and trug.Frustums.Non right angled triangles trig.					
	Term 2			Functions. Geometric progression.Quadratic inequalities.Quadratic simultaneous equations.			Direct/indirect proportion.		Negative enlargement.	
	Term 3				Exponentiial graphs. Trig graphs,.			Constructing perpendiculars, angle bisectors, loci.	Vectors. Transformation of graphs	Histograms. Rate of change graphs.
	Term 4	Teacher identified revision	Lessons are chunked into 3 parts	part 1 - revision of underpinning skills - 10 questions	Part 2 - key topic identified as a weakness	Part 3 -GCSE paper				
	Term 5	Exam season								
	Term 6	Exam season								
	Opportunities to develop 'Respectful attitudes / inclusion and Diversity									
	Link to 'Destinations and Employability'	Pathway 1; A level maths, further maths. Allows access into all degree courses. Focus on Engineering, Science based subjects, Accountancy, Economics. Logic, attention to detail and problem solving are addressed tthroughout.								
	Enrichment Opportunities offered or developed									

Year 10 pathway 2 Higher Tier Trajectory Students		Subject Knowledge introduced / developed / revised Year 10 Higher Tier Trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
	Term 1		Powers and roots. Basic index notation.Scientific calculator. Error intervals and bounds.	Expanding and factorisingg quadratics. Forming algebraic expressions.			Proportion. Ratio. Compound units.		Plans and elevations.	
	Term 2			Nth term. Sequences. Qudratic sequences. Solving linear equations. In equalities.	Circles/sector areas. Circle perimeter and arc length. Surface area of prism. Pythagoras.					
	Term 3		Interpret graphs	Plotting a straight line. Equation of a line. Plotting quadratic graphs.	Angles, include parallel lines and polygons. Similarity and congruence.					
	Term 4			Simultaneous equations graphed.Simultaneous equations						Probability. Scatter graphs. Frequency polygons. Histograms.
	Term 5		Estimation. Index notation.Introduction to surds.		Pythagors. Trigonometric ratios. Exact values.				Bearings	
	Term 6		Iteration.	Algebraic fractions. Changing the subject. Expanding 3 binomials.					Transformations	
	Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity									
	Links to 'Destinations and Employability'	Strengthen key aspects of maths that are requred in the workplace: Basic numeracy, accuracy, attention to detail, problem solving. In addition a grade 6 allows access to certain A levels and degree courses.								
	Enrichment Opportunities offered or developed									

Year 11 pathway 2 Higher Tier Trajectory Students		Subject Knowledge introduced / developed / revised Year 11 Higher Tier Trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
	Term 1			Quadratic sequences. Geometric progressions. Solving linear equations and inequalities. Linear inequalities - graphing. Functions.			Direct/indirect proportion. All ratio. Compound measures.			
	Term 2			Recap on all straight line/quadratic/cubic graphs.	3d Pythagoras. Circle sectors. Volume and surface area. Volume, area and linear scale factors. Circle theorems.	Recurring decimals. Repeated percentage change. Reverse percentage. Compound interest and decay.		Velocity time/rate of change graphs.		
	Term 3		Product rule.	Solving quadratics - algebraic and graphing. Parallel and perpendicular lines					Vectors	Venn. Capture, recapture. Sampling. Box plot. Cumulative frequency
	Term 4	Lessons are chunked into 3 at this point. 10 starter questions that revise key underpinning skills. Gcse paper and either revision of an identified topic or teaching a topic in red. This is dependant on the class.		Quadratic formula. Completing the square. Proofs. Equation of a circle. Quadratic inequalities. Quadratic simultaneous.	Trig non rightangle triangles. 3d trig. Trig graphs.			Frustums	Transformation of graphs	
	Term 5	Exam season								
	Term 6	Exam season								
	Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity									
	Links to 'Destinations and Employability'	Strengthen key aspects of maths that are requred in the workplace: Basic numeracy, accuracy, attention to detail, problem solving. In addition a grade 6 allows access to certain A levels and degree courses.								
	Enrichment Opportunities offered or developed									

Year 10 pathway 3 Foundation Tier Trajectory Students		Subject Knowledge introduced / developed / revised Year 10 Foundation Tier Trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics
	Term 1	Truncate and round	HCF, LCM, Product of primes. Standard form. Directed numbers.. Order of operations. Scientific calculator. Error intervals and bounds.					Perpendicular bisector and constructions	Plans and elevations.	
	Term 2			Forming algebraic expressions. Substitution. Expanding brackets. Factorising			Ratio. Proportion. Compound units			
	Term 3			Solving linar equations. Sequences. Nth term. Inequalities on a number line. Inequalities						
	Term 4				Circles vocab. Pythagoras. Similarity. Congruence.			Area and perimeter. Circle area and perimeter. Surface area of of prisms.	Angles to include parallel lines and polygons.	
	Term 5			Plotting a straight line. Equation of a straight line. Plotting and recognising algebraic graphs.Simultaneous equations graphed.						
	Term 6									Interpret graphs. Probability. Probability trees. Relative frequencey. Averages, including freequency tables. Presentation of data .
	Opportunities to develop 'Respectful attitudes' / inclusion and Diversity									
	Links to 'Destinations and Employability'	Strengthen key aspects of maths that are requred in the workplace: Basic numeracy, accuracy, attention to detail, problem solving. In addition a grade 4 and 5 allows access to certain A levels and degree courses.								
	Enrichment Opportunities offered or developed									

Year 11 pathway 3 Foundation Tier Trajectory Students		Subject Knowledge introduced / developed / revised Year 11 Foundation Tier Trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
	Term 1		Powers. Roots. Index notation	Simultaneous equations- algebraic. Changing the subject	Trigonometry.		Proportion	Bearings	Transfornmations	
	Term 2			Sequences		Recap on percentages. Reverse percentage. Compound interest and depreciation.		Volume and surface area of cones,pyramids,spheres		
	Term 3			Plotting algebraic graphs. Understanding algebraic graphs. Factorising and solving quadratics.					Vectors	Samplng. Venn diagrams. Venn notation
	Term 4	Teacher identified revision	Lessons are chunked into 3 parts	part 1 - revision of underpinning skilles - 10 questions	Part 2 - key topic identified as a weakness	Part 3 -GCSE paper				
	Term 5	Exam season								
	Term 6	Exam season								
	Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity									
	Links to 'Destinations and Employability'	Strengthen key aspects of maths that are requred in the workplace: Basic numeracy, accuracy, attention to detail, problem solving. In addition a grade 4 and 5 allows access to certain A levels and degree courses.								
	Enrichment Opportunities offered or developed									

Year 10 pathway 4 Foundation Tier Trajectory Students		Subject Knowledge introduced / developed / revised Year 10 Foundation Tier Trajectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics
	Term 1	Rounding	HCF, LCM, Product of primes. Standard form. Directed numbers.. Order of operations.		Transformations.			Scale drawings.	Bearings	
	Term 2			Substitution. Indicies. Rearranging formula.		Fractions and decimals	Proportion. Ratio. Compound units.			Probability
	Term 3			Sequences. Nth Term.		Fraction decimals percent		Angles, include parallel lines. Angles in a polygon.		
	Term 4		Interpret graphs	Solving linear equations. Plotting straight lines. Equations of a straight line.	Circles vocab.			Area and perimeter. Circles vocab. Circle area and perimeter. Volume of prisms.		
	Term 5									Venns. Probability. Frequency trees. Presenting data. Averages using a frequency table
	Term 6	Truncate and round	Powers and roots. Standard form. Scientific calculator. Error intervals. Bounds					Perpendicular bisector and constructions	Plans and elevation	
	Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity									
	Links to 'Destinations and Employability'	Strengthen key aspects of maths that are requred in the workplace: Basic numeracy, accuracy, attention to detail, problem solving								
	Enrichment Opportunities offered or developed									

Year 11 pathway 4 Foundation Tier Trajectory Students		Subject Knowledge introduced / developed / revised Year 11 Foundation Tier Trasjectory Students								
	Term / Topic Area	Number and Place Value	Calculation	Algebra	Properties of shapes	Fra/Dec/%	Ratio and Proportion	Measurement and mensuration	Positions and directions	Statistics and Probability
	Term 1			Solving equations. Forming algebraic expressions. SubstitutionExpanding brackets. Factorising			Ratio. Proportion. Compound units.			
	Term 2			Sequences. Nth term. Inequalities. Inequalities on a number line.	Circle vocabulary			Area. Surface Area		
	Term 3			y = mx + c. Plotting all functions.					All angle facts	Real life graphs. Frequency polygons. Probability trees. Scatter graphs.
	Term 4	Teacher identified revision	Lessons are chunked into 3 parts	part 1 - revision of underpinning skilles - 10 questions	Part 2 - key topic identified as a weakness	Part 3 -GCSE paper				
	Term 5	Exam season								
	Term 6	Exam season								
	Opportunities to develop 'Respectful attitudes' / Indusion and Diversity									
	Links to 'Destinations and Employability'	Strengthen key aspects of maths that are requred in the workplace: Basic numeracy, accuracy, attention to detail, problem solving								
	Enrichment Opportunities offered or developed									

Subject group	Faculty	Maths
	Subject	Year 12

		Subject Knowledge introduced / developed / revised			skills developed / extended / used		
	Term / Topic Area						
Year 12	Term 1	Algebraic expressions, Quadratics, equations	Modelling in mechanics. Constant acceleration	Data Collection & representation	Algebraic manipulation	interpretting mathematical models	
	Term 2	Graphs & transformations. Straight lines & circles	Constant acceleration	Measures of location & spread	understanding graphs	applying mathematical models	
	Term 3	Algebraic methods & Binomial	Forces & motion	Correlation.	algebraic manipulation & application	applying mathematical models to mechanical situations	
	Term 4	Trig rations, identities & equations	Differentiation	Probability	using trigonometric identities	applying the process of differentiation	
	Term 5	Vectors. Exponentials & logs	Integration	Statistical distribution	manipulating vectors	applying the process of integration	
	Term 6	Algebraic methods. Functions & graphs	Variable acceleration	Hypothesis testing	manipulating logs & exponential functions	applying calculus to mechanical problems	
	Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity	inherent in the classroom ethos					
	Links to 'Destinations and Employability'	working towards highest achievable A level grade that will open opportunities & increase emplyability					
	Enrichment Opportunities offered or developed	opprtunities to further develop subject knowledge through independent study	UKMT	revision conferences			

Subject group	Faculty	Maths
	Subject	Year 13

Year 13

Term / Topic Area	Subject Knowledge introduced / developed / revised			skills developed / extended / used		
Term 1	Sequences & series. Binomial. Radians	Moments	Regression, correlation & hypothesis testing	applying the concept of a limit	applying knowledge & strategies to rigid bodies	
Term 2	trig functions & modelling. Paramentic equations	Projectiles	Regression, correlation & hypothesis testing	applying trig functions	applying constant acceleration to bodies moving under gravity	
Term 3	Calculus	Application of forces	Conditional probablilty	recognising & applying a variety of calculus strategies	applying models to forces problems	
Term 4	Numerical methods & vectors	Further kinematics	Normal distribution	find approximate solutions using numerical methods	applying vectors to mechanical models	
Term 5	Revision & practice of Pure	Revision & practice of mechanics	Revision & practice of Statistics	recognising concepts & applying all strategies	recognising concepts & applying all strategies	recognising concepts & applying all strategies
Term 6	Exam practice	Exam practice	Exam practice	applying knowledge & strategies to exam style problems & developing exam technique	applying knowledge & strategies to exam style problems & developing exam technique	applying knowledge & strategies to exam style problems & developing exam technique
Opportunities to develop 'Respectful attitudes' / Inclusion and Diversity	inherent in the classroom ethos					
Links to 'Destinations and Employability'	working towards highest achievable A level grade that will open opportunities & increase emplyability					
Enrichment Opportunities offered or developed	opprtunities to further develop subject knowledge through independent study					

Subject group	Faculty	Maths
	Subject	Core Maths

		Subject Knowledge introduced / developed / revised			skills developed / extended / used		
	Term / Topic Area						
Year 12	Term 1	Compound Interest, Exponential Growth & Decay, Recognising Graphs and their Equations (models), Sequences, Golden Ratio, Data Samples (methods and pros / cons)			Working with indices and roots of higher powers, recognising and interpreting different types of graphs and equations, substitution, estimating rates of change, recognising different types of sequences, expressing nth terms, use of arithmetic and geometric sequence formulae, introducing sigma notation.		
	Term 2	Measures of Central Tendency, Frequency Distributions for Univariate Data, Univariate Statistical Diagrams, Excel Spreadsheet formulae			Different averages inc. frequency distributions, standard deviation, comparing data sets, interpreting diagrams including box-and-whisker plots (with outliers) , cumulative frequency graphs, histograms, time series graphs (inc. moving averages), calculating sums and key statistics using Excel formulae.		
	Term 3	Bivariate Statistical Diagrams, Correlation inc. Correlation Coefficients, Regression, Interpolation & Extrapolation			Dependent / independent variables, scatter graphs, interpreting correlation in context, product moment corrlelation coefficient, spearman's rank correlation coefficient, equations of regression lines inc. plotting and interpreting.		
	Term 4	Equations in worded context, Linear Programming, Probability Diagrams inc. Tree Diagrams, Venn Diagrams and Two-Way Tables, Probability Notation, applying Risk			Forming and solving equations from worded contexts, simultaneous equations, translating constraints into inequalities, plotting them and identifying feasible regions, finding optimal solutions in context, constructing probability diagrams, using independent, dependent and conditional probability.		
	Term 5	Interpreting Data from Official Exam Source Booklet, Preparation for End-of-Year Exam inc. Predicted Questions			All skills seen across the year reinforced in revision towards end of year exams.		
	Term 6	(End of Year Exams)			All skills reinforced in any remaining revision lessons.		
	Opportunities to develop 'Respectful attitudes / Inclusion and Diversity	Discussion of real life data and contexts, interpreting statistical anomalies / trends and how this reflects on the world today. Sharing findings from own research and understanding of the real life contexts that accompany the mathematical applications.					
	Links to 'Destinations and Employability'	Relation of topics seen to their use in careers in the real-world, e.g. Risk with insurance brokers, Statistics with government statiticians, etc. Exploring the origins of the data sources used in end of year exams and the careers that generate / require the data.					
	Enrichment Opportunities offered or developed	Applying mathematical theorems / processes to student-generated data. Nrich tasks that complement topics seen across the course. Connections with other A-level courses, such as use of PMCC in Psychology, etc. - analysing the use of statistical processes in other subjects.					