

Sixth Form Mathematics Curriculum Intent

Write your curriculum intent here;

Year 12 and 13

Students should build upon their existing mathematical knowledge, developing logical thinking skills and problem solving skills. Students should develop conceptual understanding, and the ability to find and appreciate links between different elements of mathematics (and other closely related disciplines) moving beyond a purely procedural understanding. Students will leave with the required skills and knowledge needed to pursue the study of mathematics or another STEM discipline at a higher level, as well as a deeper appreciation of the beauty of mathematics.

The beginning of Year 12 covers bridging units where most concepts are high grade GCSE content. There are some new concepts in those units but it mainly is a crossover units. Later in the Autumn term they move to newer content and move to applied (statistics and mechanics) content in the spring terms. By the end of Year 12 they will have covered all of the AS syllabus and started the A-level syllabus in order to ensure they finish all new content by Easter of Year 13 ideally.

Mathematics Curriculum Impact KS5

FORMATIVE;

The instructional guidance that identifies central points of learning and plans for the progression of individual students.

SUMMATIVE;

This describes individuals learning at the end of an instructional unit by comparing it against a standard or benchmark. (High Stakes Assessment)

EVALUATIVE;

This is about institutional accountability and comes after terminal exams. External agencies.

TIMESCALE

Annually

Year 12: (Maths/[FMaths](#))

- End of Year assessment (June) - based upon all topics taught in year 12.
- 2 Papers are sat for the Pure and applied sections of the course/ [A2 Pure paper 2+](#) [Further Core Maths](#)
- 2 Hours for Pure paper and 1 hour 15 mins for applied paper minutes for each paper

Nationally standardised summative assessment takes the form of A-levels and vocational qualifications at the end of Key Stage 5.

A-level exam board: Edexcel Pearson

Exam structure:
Paper 1 : 2hr (33%)

			- Pure A2 paper is 2 hours and the FMaths Core is 1 hour 45 mins Year 13: - Mock Examinations (September, December and March/April) - based upon all topics taught to this point. - 2 Papers are set for the two halves of the course. - 2 hours for each paper - Paper 3 mock to be sat after Easter - 2 hours	Paper 2 : 2hr (33%) Paper 3 : 2hr (33%) <i>Paper 1 1 hr 30 mins(Paper 2 1 hr 30 mins Paper 3 1 hr 30 mins Paper 4 1 hr 30 mins</i> Core Maths Exam Board AQA <i>Paper 1 1 hr 30 mins(Paper 2 1 hr 30 mins</i>
	Interim (termly or half-termly)		Cumulative Testing: • Each half term- Yr 12 , Yr13 students will sit cumulative tests covering all topics covered to date. • The exam will use questions taken from the exam board which have previously been in real exams. • The assessments will be approximately 50 minutes. • Exams are marked and moderated in-house. • Grade boundaries from the most recent exam series are used where possible and fine grades used to identify those needing intervention/ additional support End of topic exams End of topic test continuing practice questions for the cumulative tests are provided to students to complete in 10th period time. This does not apply to Core maths students Students complete this test under exam conditions and then will be provided with feedback based on how to improve their performance. Folder checks Folders are collected half termly to ensure students are managing their notes and time well. Feedback is provided by monitoring sheets	

	Weekly	Teachers role: - Identify how students are performing and use this to provide support, evaluate student learning and plan future lessons. - Provide oral and/or written feedback. - Keep track of student progress using department internal and school wide data systems. - Scaffold feedback to students for effective self/peer assessment. - Department homework set weekly - students submit for review Students role: - Engage in self assessment of additional homework/classwork - Complete Department Weekly Homework (collected in by teacher) - Complete regularly set class homework - Be proactive in ReACT taks. - Revise content. - Redraft and submit work which is completed to the best of their abilities. - Identify their own strengths and weaknesses and ask for support from their subject teachers.		
	Hourly	<i>Every Lesson Every Day</i> techniques are embedded in lessons formative assessment takes place using the following strategies: - Questioning - Low stakes testing - Oral feedback		

		- Whole-class feedback - Retrieval starter tasks	
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Type subject here Curriculum Implementation						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 12	Algebra Proof Index law Quadratics Simultaneous equations Inequalities Binomial theorem Algebraic division Graphs Straight lines Circles Transformations Trigonometry (cont'd) Triangle problems Trig graphs	Trigonometry (con'd) CAST diagram Solving equations Calculus Differentiation Exponentials and Logs Laws of logs Exponential functions Curve fitting	Vectors 2D vectors Calculus Integration Exponentials and Logs (cont'd) Laws of logs Exponential functions Curve fitting Mechanics Kinematics Forces and Newton's Laws Statistics Collecting and representing data	Statistics Representing data Probability Discrete random variables Binomial distribution Hypothesis testing Mechanics (cont'd) Kinematics Forces and Newton's Laws	Statistics cont... Hypothesis testing Trigonometry Radian measure Inverse trig functions Reciprocal trig functions Compound angles $a\cos\theta + b\sin\theta$ Sequences & Series Arithmetic Geometric Algebra Functions	Trigonometry cont... Reciprocal trig functions Compound angles Algebra Functions cont'd Algebraic Methods

Year 13	Algebra Further proof Partial fractions Sequences & Series Arithmetic Geometric Binomial Theorem Numerical methods Iteration Newton-Raphson method Parametric equations Vectors 3D Vectors Calculus Differentiation, including chain rule, product rule	Calculus cont... Integration including substitution and by parts Vectors 3D Vectors Mechanics Moments	Calculus cont... Integration including substitution and by parts Statistics Correlation and regression Mechanics Kinematics in 2D Projectiles Statics Dynamics	Statistics cont... Conditional Probability Normal Distribution Mechanics cont... Applications of forces Further kinematics	Revision	Exam period
Core Maths	Maths for Personal Finance Analysis of data Estimation Representing data	Maths for Personal Finance Representing data	Maths for Personal Finance Representing data Normal Distribution Confidence intervals Probability	Preliminary data Analysis and preparation	Revision/Exam Period	

