CHS Curriculum Intent

SUCCESSFUL: Learners who gain deep and powerful knowledge in preparation for life; combining academic rigour, curiosity and creative flair.

CREATIVE: Learners who are imaginative, optimistic and inventive; finding their voice to become effective communicators prepared for lifelong adaptability

HAPPY: Learners who are confident, resilient, well-rounded citizens; they understand the world's communities and are ready to discover their place in it.

CHS Curriculum Area Framework for Learning – Year 11

SUBJECT	Maths
INTENT	Maths is a universal language that explains the world around us. The study of Mathematics enables you to make sense of everyday situations, forge links between topics and establish connections to real life context. Maths fosters curiosity, equipping students with various strategies to tackle problems; it empowers students with resilience to take risks, get it wrong, form a new strategy and start again, with determination and drive to reach the final answer. Maths is logical thinking, reasoning, intuition, analysis, construction, generalisation and beauty.

Year Group	11					
Rationale/ Narrative	Year 11 seeks to harness students' skills and knowledge, creating mathematicians who are forging links between topics and linking problems to everyday life scenarios. Student seek to understand why processes work, understand their limitations, evaluate and generalise methods. Students are aware of the use of Maths across the curriculum and in future studies, understanding the many applications to potential careers ahead.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2

| KNOWLEDGE | Number and Calculator skills (find the reciprocal of simple numbers/fractions mentally)

Measures

Accuracy and Bounds

Factors, Multiples and Primes (use prime factorisation to represent a number as a product of its primes using index notation)

Expressions

Indices and Surds (recall that $n^0 = 1$ and $n^{-1} = 1/n$ for positive integers n as well as $n^{1/2} = \sqrt{n}$ and $n^{1/3} = \sqrt[3]{n}$ for any positive number n; simplify surd expressions involving squares (e.g. $\sqrt{12} = \sqrt{(4 \times 3)} = 2\sqrt{3}$); simplify surd expressions involving squares)

Geometry of 2D and 3D Shapes

Angles and polygons | Data Types and Sampling

Sequences

Equations, Iteration (Quadratic Sequences, Quadratics and Polynomials) (rearrange simple equations; use systematic trial and improvement to find the approximate solution to one decimal place of equations such as $x^3 = 29$)

Simultaneous Equations

Perimeter and Area (use and apply Pythagoras' theorem to solve problems)

Proportion and Rates of Change (express a multiplicative relationship between two quantities as a ratio or a fraction; use compound interest) | Surface Area and Volume

Collecting and Displaying Data

Co-ordinates

Transformations (recognise whether a reflection is correct)

Ratio (express a multiplicative relationship between two quantities as a ratio or a fraction)

Probability (use tree diagrams to calculate the probability of two dependent events; use tree diagrams to calculate the probability of two independent events)

Constructions (draw the locus equidistant between 2 points or from a point; produce shapes and paths by using descriptions of loci)

Linear Graphs (know that the gradient of a line is the change in y over change in x; know that a line | Revision based topics tailored to students' specific learning needs as identified through use of PLCs and practice examinations. | Revision based topics tailored to students' specific learning needs as identified through use of PLCs and practice examinations. | |

	Fractions, Decimals and Percentages Trigonometry (find angles of elevation and angles of depression; know and apply the sine rule a/sin A = b/sin B = c/sin C to find unknown lengths and angles; know and apply the cosine rule a² = b² + c² - 2bc cos A to find unknown lengths Fractions Symbols		perpendicular to the line y = mx + c, will have a gradient of -1/m) Statistical Measures Similarity, Congruence and Scale (know that enlargements of 2D shapes produce similar shapes; understand that the ratio of any two sides is constant in similar right-angled triangles)			
SKILLS	• 4 Operations • Solving multistep worded problems • Use of mathematical equipment • Reading scales • Rounding • Recognising parts of a whole • Substitution • Interpreting an unfamiliar context and applying a method to solve it • developing strategies for problem-solving,	• Multiplication • Division • Interpreting data • Pattern recognition • Understanding how ratio/proportion link together • Solving an equation and checking whether it works through substitution • Confidence at using a calculator • Interpreting an unfamiliar context and	• Drawing and labelling axes • Comparing and interpreting averages and range • Identifying parallel and perpendicular lines • Accurate use of mathematical equipment such as a ruler, protractor and compass • Confidence at using a calculator • Interpreting an unfamiliar context and			

	such as drawing a diagram or using bar modelling • finding an error in a process and being able to correct it • interpreting solutions in the context of the given problem, ensuring an answer is sensible • making and using connections, which may not be immediately obvious, between different parts of mathematics	applying a method to solve it • developing strategies for problem-solving, such as drawing a diagram or using bar modelling • finding an error in a process and being able to correct it • interpreting solutions in the context of the given problem, ensuring an answer is sensible • making and using connections, which may not be immediately obvious, between different parts of mathematics	applying a method to solve it • developing strategies for problem-solving, such as drawing a diagram or using bar modelling • finding an error in a process and being able to correct it • interpreting solutions in the context of the given problem, ensuring an answer is sensible • making and using connections, which may not be immediately obvious, between different parts of mathematics			
ASSESSMENTS	Marking Point 1 Students will complete a mock GCSE examination paper for the new specification 9-1 GCSE during Week 3 of the term. Students will be provided with feedback on their examination in the form of a Personal Learning Checklist and two stars and a wish.	Marking Point 1 Students will complete their November mock examinations which will inform any final set movements in Spring 1 and determine tier of entry. Marking Point 2 Students will be assessed on their written piece of homework which assess	Students will complete GCSE exams papers every two weeks/weekly dependent on ability. Written feedback will be given on this in the form of a PLC and students will be able to focus their revision efforts on areas of weakness.	Students will complete GCSE exams papers every two weeks/weekly dependent on ability. Written feedback will be given on this in the form of a PLC and students will be able to focus their revision efforts on areas of weakness.		

	Marking Point 2 Students will be assessed on their written piece of homework which assesses their skills in answering a Quality of Written Communication exam question. Marking Point 3 Students will be assessed on their understanding of a specific topic chosen by their teacher from the topics listed above. Feedback for this will be provided in the form of two stars and a wish.	their skills in answering a Quality of Written Communication exam question. Marking Point 3 Students will be assessed on their understanding of a specific topic chosen by their teacher from the topics listed above. Feedback for this will be provided in the form of two stars and a wish.				