

Year 11	Autumn 1	Autumn 2		Spring 1		Spring 2	Summer 1	\Summer 2
Topic	Topic 1.X Revision & Recap	Year 11 Mock Exam 1	Topic 2.1 Algorithms	Topic 2.2 Programming fundamentals	Year 11 Mock Exam 2	Revision & Recap		Year 11 Exam Season
Components	Component 1.1 Component 1.2 Component 1.3 Component 1.4 Component 1.5		<u>Component 2.1.1</u> <u>Computational thinking</u> Principles of computational thinking: • Abstraction • Decomposition • Algorithmic thinking <u>Component 2.1.2</u> <u>Designing, creating and refining algorithms</u> Identify the inputs, processes, and outputs for a problem Structure diagrams Create, interpret, correct, complete, and refine algorithms using: • Pseudocode • Flowcharts • Reference language/high-level programming language • Identify common errors • Trace tables <u>Component 2.1.3</u> <u>Searching and sorting algorithms</u> Standard searching algorithms: • Binary search • Linear search	<u>Component 2.2.1</u> <u>Programming fundamentals</u> The use of variables, constants, operators, inputs, outputs and assignments The use of the three basic programming constructs used to control the flow of a program: • Sequence • Selection • Iteration (count- and condition-controlled loops) The common arithmetic operators The common Boolean operators AND, OR and NOT <u>Component 2.2.2</u> <u>Data types</u> The use of data types: • Integer • Real • Boolean • Character and string • Casting <u>Component 2.2.2</u> <u>Data types</u> The use of basic string manipulation		Component 1.1 Component 1.2 Component 1.3 Component 1.4 Component 1.5	Component 2.1 Component 2.2 Component 2.3 Component 2.4	

			Standard sorting algorithms: • Bubble sort • Merge sort • Insertion sort	The use of basic file handling operations: • Open • Read • Write • Close The use of records to store data The use of SQL to search for data The use of arrays (or equivalent) when solving problems, including both one-dimensional (1D) and two-dimensional arrays (2D) How to use sub programs (functions and procedures) to produce structured code Random number generation				
Link with GCSE skills	Paper 01 Mathematics & English		Paper 02 Mathematics & English	Paper 02 Mathematics & English		Paper 02 Mathematics & English		