Curriculum Plans – Key Stage 4 Computer Science

Please find below a detailed outline of the curriculum covered in Computer Science through Year 11 in Key Stage 4.

Year 11

	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7
	Memory and Storage Students will be able to distinguish between primary, secondary and offline means of storage. Know the role of RAM and ROM for data storage. The difference and similarities of HDD and SSD storage devices. Describe the operation behind devices such as DVDs, CDs, Blu-rays, HDDs, SSDs and USBs. Students will begin to look at and analyse the future of storage devices.	**Pseudocode and Flowcharts** Students will be able to use pseudocode and flowcharts to assign values to variables, create conditional statements, loop structures, input and output values and to total and count values	**Python and Programming Concepts Review & Security and Ethics** Students will begin to program using the Python coding language. Using lesson by lesson projects students will develop their understanding and use of python.	**OS, Communication and Networks,** Students will learn about operating systems, interrupts and buffers, the basic overview of computer architecture and the Von Neumann computer Model. How the fetch-execute cycle works. Students will also look at how computers communicate, via serial and parallel transmission. Students will look at error-checking after transmission and ISPs, IP addresses and HTML structure of websites.	**Databases, Data Structures / Use of Pre-release Materials** Students will learn what databases are used for, how they are structured and the practical uses of a database with some SQL learning included. Students will also look at arrays, declaration and use of one-dimensional arrays. The use of variables, the reading and writing of values in an array using FOR, too and NEXT loops. Students will then practice pre-release material tasks.	**REVISION / REVIEW & EXAMINATION**	
Assessment	**Exam**	Exam	Project-Based Assessment	Exam	**Project-Based Assessment and Practice Exam Papers**	**Exam**	