



## Curriculum Plans – Key Stage 4 Computer Science

Please find below a detailed outline of the curriculum covered in Computer Science through Year 10 in Key Stage 4.

### Year 10

	Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7
<b>Module Information</b>	<p><b>Binary and Hexadecimal systems and Python programming</b></p> <p>Students will learn about the three main numerical systems used in computer science; binary, hexadecimal and denary.</p> <p>Students will start to learn the programming language Python, covering the basics of sequence and selection.</p>	<p><b>Emerging technologies and Python Programming</b></p> <p>Students will learn about robotics and AI, this will include some practical robotics work as well as some basic programming with Prolog.</p> <p>Students will continue to program in Python, learning about different types of iteration.</p>	<p><b>Emerging technologies and Python Programming</b></p> <p>Students will learn about robotics and AI, this will include some practical robotics work as well as some basic programming with Prolog.</p> <p>Students will continue to program in Python, learning about different types of iteration.</p>	<p><b>Operating Systems and Computer Architecture and Python programming</b></p> <p>Students will learn about computer Architecture, including: Von Neumann architecture, the fetch-execute cycle and Interrupts. Students will also learn low-level languages and do some basic programming with Assembly language and compare different high level languages.</p> <p>Python programming will focus on data structures and validation</p>	<p><b>Input/Output Devices &amp; Computer Ethics and Python programming</b></p> <p>Students will look at specific input and output devices that are used frequently and how they work.</p> <p>Python programming will focus on data structures and GUI's</p>	<p><b>Multimedia and 2's complement Binary and Python programming</b></p> <p>Students will learn about the formation of digital images, sound files, how to calculate file sizes and how negative numbers are stored using 2's complement binary.</p> <p>Python programming will focus on extended projects/ past pre-release questions</p>	<p><b>Pseudocode and Python programming</b></p> <p>Students will be able to use pseudocode and flowcharts to write algorithms and learn how to interrupt it into Python program code.</p>
<b>Assessment</b>	Exam	Exam	Exam	Exam	Exam	Exam	Exam