

Term	INTENT	IMPLEMENTATION	IMPACT
	<p>Substantive Knowledge</p> <p>This is the specific, factual content for the topic, which should be connected into a careful sequence of learning.</p>	<p>Disciplinary Knowledge (Skills)</p> <p>This is the action taken within a particular topic in order to gain substantive knowledge.</p>	<p>Assessment opportunities</p> <p>What assessments will be used to measure student progress? Evidence of how well students have learned the intended content.</p>
<p>Autumn Term Y10 1A</p>	<p>Intent</p> <p><u>Systems Architecture 1.1</u></p> <p>Why is this taught now? This fundamental topic follows from the work completed in Y8/9 and students are expected to have a solid understanding of architectures and components.</p> <ul style="list-style-type: none"> • The purpose of the CPU: The FDE cycle. • Von Neumann architecture: understanding of a range of registers. • Common CPU components and their function. • How common characteristics of CPUs affect their performance: clock speed, cache size, number of cores. • Embedded systems: purpose of embedded systems, examples of embedded systems. 	<ul style="list-style-type: none"> • Be able to describe the FDE Cycle • Describe features of the Von Neumann architecture • Name and describe a range of registers including MAR (Memory Address Register), MDR (Memory Data Register), Program Counter, Accumulator • Name and describe common CPU components and their function: ALU (Arithmetic Logic Unit), CU (Control Unit), Cache, Registers • Describe the function of the CPU and features that affect their performance: clock speed, cache size, number of cores. • Describe embedded systems and their key features. 	<p>In class teacher assessment through Q & A Knowledge recall activities Homework activities and past paper questions Teacher assessment during lesson End of module test End of Year assessments</p>
<p>Autumn Term 1B</p>	<p>Intent</p> <p><u>Memory and Data Storage 1.2</u></p> <p>Why is this taught now? This fundamental topic follows from the work completed in Y8/9 and students are expected</p>	<ul style="list-style-type: none"> • The purpose of RAM, ROM and Virtual memory • Secondary storage • How data is stored – binary • How images and sound files are stored 	<p>In class teacher assessment through Q & A Knowledge recall activities</p>

	to have a solid understanding of architectures and components.	<ul style="list-style-type: none"> Types of compression 	<p>Homework activities and past paper questions</p> <p>Teacher assessment during lesson End of module test End of Year assessments</p>
Spring Term 2A	<p><u>Intent</u> <u>Programming Techniques 2.2</u> <u>Producing robust programs</u> <u>Boolean Logic</u> <u>Designing, creating and refining algorithms</u> Why is this taught now?</p> <p>This topic follows on and builds on KS3 as well as Electronics and are fundamental components of the GCSE</p>	<ul style="list-style-type: none"> The use of the three basic programming constructs used to control the flow of a program: sequence, selection and iteration. The use of variables, constants, operators, inputs, outputs and assignments The use of a range of data types Boolean logic including AND, OR, NOT gates Be able to use sub programs (functions and procedures) to produce structured code / algorithms. Identifying types of errors Be able to use a range of testing strategies to test programs. 	<p>In class teacher assessment through Q & A</p> <p>Knowledge recall activities</p> <p>Homework activities and past paper questions</p> <p>Teacher assessment during lesson End of module test End of Year assessments</p>
Spring Term 2B	<p><u>Intent</u> <u>Networks and topologies 1.3</u> <u>Wired and wireless networks, protocols and layers</u> Why is this taught now?</p> <p>A fundamental and large theoretical component of Module 1</p>	<ul style="list-style-type: none"> Describe types of network: LAN/WAN Describe the different roles of computers in a client-server and a peer-to-peer network Be familiar with a range of network hardware Describe different modes of connecting devices Common protocols and layering 	<p>In class teacher assessment through Q & A</p> <p>Knowledge recall activities</p> <p>Homework activities and past paper questions</p> <p>Teacher assessment during lesson End of module test End of Year assessments</p>
Summer Term 3A	<p><u>Intent</u> <u>Systems software 1.5</u> <u>Utility Software</u> Why is this taught now?</p> <p>Key components of the GCSE course</p>	<ul style="list-style-type: none"> Be able to describe the purpose and functionality of systems software Be able to describe operating systems including: user interface, memory management/multitasking, peripheral management and drivers, user management, file management. 	<p>In class teacher assessment through Q & A</p> <p>Knowledge recall activities</p> <p>Homework activities and past paper questions</p> <p>Teacher assessment during lesson End of module test</p>

		<ul style="list-style-type: none"> • Be familiar with utility System Software including encryption software, defragmentation, data compression. 	End of Year assessments
Summer Term 3B	<p>Intent <u>Searching and Sorting algorithms 2.1</u></p> <p>Why is this taught now? Build on algorithms taught earlier in the year and is a topic that can be used to develop programming skills to a higher level.</p>	<ul style="list-style-type: none"> • • To describe the steps needed to carry out search and sorting techniques on a set of data • Be able to describe the search and sorting techniques algorithmically • 	<p>In class teacher assessment through Q & A</p> <p>Knowledge recall activities</p> <p>Homework activities and past paper questions</p> <p>Teacher assessment during lesson</p> <p>End of module test</p> <p>End of Year assessments</p>