



Topic Name	Term	Skills Developed	Next link in curriculum	Other Notes
System Architecture (1.1)	Autumn 1	<ul style="list-style-type: none">• Components of the CPU• CPU registers.• CPU Cycle• Von Neuman Architecture.• Embedded systems.	<ul style="list-style-type: none">• Computer Architecture: Structure / function of processor and processor types. (Year 12 – Autumn 1)	Foundations for A Level section 1.1 Links to Prior Learning: Year 9 Computer Systems 3
Programming Fundamentals (2.2)	Autumn 1/Autumn /Spring 1/Spring 2	<ul style="list-style-type: none">• Python programming skills.• Sequence/selection/iteration.• Procedures and functions.• Data structures• File input and output.• Using SQL • Understand the features of an IDE (using Python IDLE).	<ul style="list-style-type: none">• 2.3 Producing Robust Programs (Year 11 – Spring 1)	Single lessons. Practical experience of coding. Links to Prior Learning: Y9 Programming with Python 3
Memory and Storage (1.2)	Autumn 2	<ul style="list-style-type: none">• RAM vs ROM• Virtual Memory• How flash, optical and magnetic storage devices work.• Comparison of the devices and their suitability for particular purposes/scenarios.	<ul style="list-style-type: none">• Input / output and storage devices (Year 12 – Autumn 2)	Links to Prior Learning: Year 9 – Computer Systems



<p>Memory and Storage (Data Representation) 1.2</p>	<p>Spring 1</p>	<ul style="list-style-type: none"> • <i>Data storage units</i> • <i>Data representation: Binary / Hexadecimal/Text/Image/Sound.</i> • <i>Compression</i> 	<ul style="list-style-type: none"> • <i>Data Types/Boolean Logic (Year 13 – Autumn 2)</i> 	<p>Links to Prior Learning: Year 9 – Data Representation 3</p>
<p>Computer Networks, Connections and Protocols. 1.3</p>	<p>Spring 2</p>	<ul style="list-style-type: none"> • <i>Local and Wide Area Networks</i> • <i>Client server vs peer to peer</i> • <i>Network performance factors</i> • <i>Network hardware</i> • <i>Internet structure</i> • <i>Virtual networks</i> 	<ul style="list-style-type: none"> • <i>1.4 Network Security (Year 11 – Spring 1)</i> 	<p><i>Foundations for A Level section 1.3</i></p> <p>Links to Prior Learning: Y9 – Computer Networks 2</p>
	<p>Summer 1</p>	<ul style="list-style-type: none"> • <i>Network topologies (star/ring/mesh)</i> • <i>WiFi</i> • <i>TCP/IP</i> • <i>Protocols at each layer.</i> • <i>Packet switching</i> 		
<p>System Software 1.5</p>	<p>Summer 2</p>	<ul style="list-style-type: none"> • <i>Role (and characteristics of) operating systems.</i> • <i>Application vs Utility software (compression/defragmentation/antiviruses etc).</i> 	<p><i>System Software: Operating Systems and utility software. Nature of applications (Autumn 2 Year 12)</i></p>	<p><i>Preparing for A Level section 1.2</i></p> <p>Links to Prior Learning: Y7 Computer Systems 1 (some elements)</p>



<p>Types of Language and Translators 2.5</p>	<p>Summer 1 / Summer 2</p>	<ul style="list-style-type: none">• <i>Difference between compiling and interpreting code.</i>• <i>Language classification 1st,2nd 3rd and 4th generation languages and conversions between them.</i>	<p><i>System Software: Operating Systems and utility software. Nature of applications (Autumn 2 Year 12)</i></p>	<p><i>Preparing for A level section 1.2</i></p> <p>Links to Prior Learning:</p> <p>Y10 Programming Techniques</p>
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