



Topic Name	Term	Skills Developed	Next link in curriculum	Other Notes
System Architecture (1.1)	Autumn 1	• Components of the CPU • CPU registers. • CPU Cycle • Von Neuman Architecture. • Embedded systems.	• 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	• 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).	• 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	• RAM vs ROM • Virtual Memory • How flash, optical and magnetic storage devices work. • Comparison of the devices and their suitability for particular purposes/scenarios.	• Input / output and storage devices (Year 12 – Autumn 2)	Links to Prior Learning: Year 9 – Computer Systems



Memory and Storage (Data Representation) 1.2	Spring 1	• Data storage units • Data representation: Binary / Hexadecimal/Text/Image/Sound. • Compression	• Data Types/Boolean Logic (Year 13 – Autumn 2)	Links to Prior Learning: Year 9 – Data Representation 3
Computer Networks, Connections and Protocols. 1.3	Spring 2	• Local and Wide Area Networks • Client server vs peer to peer • Network performance factors • Network hardware • Internet structure • Virtual networks	• 1.4 Network Security (Year 11 – Spring 1)	Foundations for A Level section 1.3 Links to Prior Learning: Y9 – Computer Networks 2
	Summer 1	• Network topologies (star/ring/mesh) • WiFi • TCP/IP • Protocols at each layer. • Packet switching		
System Software 1.5	Summer 2	• Role (and characteristics of) operating systems. • Application vs Utility software (compression/defragmentation/antiviruses etc).	System Software: Operating Systems and utility software. Nature of applications (Autumn 2 Year 12)	Preparing for A Level section 1.2 Links to Prior Learning: Y7 Computer Systems 1 (some elements)



Types of Language and Translators 2.5	Summer 1 / Summer 2	<i>Difference between compiling and interpreting code.</i> <i>Language classification 1st, 2nd 3rd and 4th generation languages and conversions between them.</i>	System Software: Operating Systems and utility software. Nature of applications (Autumn 2 Year 12)	Preparing for A level section 1.2 Links to Prior Learning: Y10 Programming Techniques
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