



SUBJECT GCSE Computer Science

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	Area of Study: Defensive design. Testing. Boolean Logic.	Area of Study: Boolean Logic. Languages.	Area of Study: Architecture of the CPU. CPU performance.	Area of Study: Embedded systems. Primary Storage.	Area of Study: Secondary Storage. Units.	Area of Study: Data storage. Practical programming.
	Content: Defensive design considerations. Input validation. Maintainability. The purpose of testing. The types of testing. Identify syntax and logic errors. Selecting and using suitable test data. Refining algorithms. Simple logic diagrams.	Content: Truth tables. Combining Boolean operators using AND, OR and NOT. Applying logical operators in truth tables to solve problems. Characteristics and purpose of different languages. The purpose of translators. Characteristics of a compiler and an interpreter.	Content: The purpose of the CPU. Common CPU components and their function. Von Neumann architecture. How common characteristics of CPUs affect their performance.	Content: The purpose and characteristics of embedded systems with examples. The need for primary storage. The difference and purpose of RAM and ROM and virtual memory.	Content: The need for secondary storage. Common types of storage. Suitable storage devices for a given scenario. The advantages and disadvantages of different storage characteristics. Units of data storage.	Content: Numbers – binary, denary and hexadecimal. Binary shifts. Characters – ASCII & Unicode. Images – Metadata and the effect of colour depth and resolution. Sound – sample rate, duration and bit depth. Python programming.

Support at home	BBC Bitesize Computer Science OCR	Craig 'n' Dave for Students	Videos for the OCR Spec	Revision question cards		
	Pearson Revision workbook	CGP The revision Guide	CGP Python programming guide	Cambridge Student book with digital access	PG Online Revision and Practice book	
Assessments:	AP1: Computational thinking, algorithms and programming (02) AP2: Computer Systems (01) AP3: Combination of (01) and (02)			Careers in the curriculum: Programmer Data scientist Software Developer/Software Engineer		



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 11	Area of Study: Networks and Topologies	Area of Study: Wired and wireless networks, protocols and layers	Area of Study: Threats to computer systems and networks and identifying and preventing vulnerabilities. Operating systems.	Area of Study: Utility software. Ethical, legal, cultural and environmental impact.	Area of Study: CPU performance. Embedded systems. Primary and secondary storage. The integrated development environment.	
	Content Types of networks. Factors that affect the performance of networks. Client-server and peer-to-peer networks. Hardware needed in a LAN. The Internet. Star and Mesh network Topologies.	Content Modes of connection. Encryption. IP addressing and MAC addressing. Standards. Common protocols. The concept of layers.	Content Forms of attack. Common prevention methods. The purpose and functionality of operating systems.	Content The purpose and functionality of utility software. Impacts of digital technology on wider society. Legislation relevant to computer science.	Content How common characteristics of CPUs affect their performance. The purpose, characteristics and examples of embedded systems. Primary storage (RAM and ROM). Secondary storage. Common tools and facilities available in an IDE.	

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Assessments:	AP1: Computational thinking, algorithms and programming (02) AP2: Computer Systems (01) AP3: Combination of (02) and (01)	Careers in the Curriculum: Software product manager. Computer Scientist IT systems Manager
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