



COMPUTING CURRICULUM OVERVIEW: KEY STAGE 3

Ready. Respect. Safe.

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
7	7.1 Foundations for Digital Success: • Network introduction • E-Safety • Responsible use	7.2 Block-Based Programming: • Programming constructs • Application in Scratch	7.3 Understanding computer systems: • Hardware • Software • System performance	7.4 How do computers represent our world?: • Data representation • Text, images and sound as data	7.5 Introduction to Text Programming: • Programming constructs • Application in Python	7.6 Creative unit: • Project management • Acquiring assets • Repurposing assets • Legal implications
8	Computing Systems: • What a computer is • Computing components • Software	Advanced Programming in Scratch: • Computational Thinking • Variables • Subroutines	Computer Networks: • What a network is • Data packets • Network hardware • Topologies	Introduction to Python Programming: • Text based programming • Constructs	Modelling data with spreadsheets: • Spreadsheets • Scenario modelling to solve problems	Physical Computing: • Embedded systems • Input and Output interfaces • Creating firmware
9	Cyber Security: • Why data is valuable • The law • Cyber threats • Hacking	Data Representation: • Binary • How text and images are saved in binary • Data compression	Python Programming: • Data structures • Writing basic games • Errors and debugging	Website Development: • HTML • CSS • Java Script	Computational Thinking: • Standard algorithms • Searching • Sorting	Flowol: • Flowcharts • Boolean Logic • Real world application



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	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	GCSE COMPUTER SCIENCE					
10	Unit 1 - Python & Programming Fundamentals: • Sequence and selection • Data types and structures • Boolean logic	Unit 2 - Further Python: • Iteration • Sub programs • File handling • Defensive design	Unit 3 - Computational thinking and languages: • Abstraction • Decomposition • Languages and IDEs • Program design	Unit 4 - Robust programming and SQL: • Defensive design • Testing • SQL	Unit 5 - Systems Architecture: • The CPU • Embedded systems • Primary storage • Secondary storage	Unit 6 - Memory and Storage: • Units of data • Binary, denary and hex • Data representation • Compression
11	OCR Computer Science J277- Paper 1 & 2: • Network security • Systems software • Programming languages and Integrated Development Environments		OCR Computer Science J277- Paper 1 & 2: • Ethical, legal, cultural and environmental impacts of digital technology • Algorithms • Programming fundamentals 3			
	BTEC LEVEL 1 / LEVEL 2 TECH AWARD IN DIGITAL INFORMATION TECHNOLOGY					
10	Pearson BTEC Tech Award DIT: • Component 1: Exploring User Interface Design Principles and Project Planning Techniques • Component 1 Coursework Completion		Pearson BTEC Tech Award DIT: • Component 2: Collecting, Presenting and Interpreting Data • Component 2 Coursework Completion		Pearson BTEC Tech Award DIT: • Component 3: Effective Digital Working Practices • A – Modern technologies	
11	Pearson BTEC Tech Award DIT: • Component 3: Effective Digital Working Practices • B – Cyber security • C – The wider implications of digital systems		Pearson BTEC Tech Award DIT: • Component 3: Effective Digital Working Practices • D – Planning and communication in digital systems • Revision and practice			