



Computer Science GCSE Curriculum

Year 10	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content: What will students know	Understand basic programming skills such as Lists, functions and procedures. Understand how the Central Processing Unit works	Programming skills - Using the library function How characters, sound and images are represented	Program: String handling operations Computer systems, logic gates	Producing Robust Programming Clear testing and use of validation in programs	Programming Reading and writing to files Fundamentals of computer Networks	Programming Writing Algorithms Cyber security Software development
Skills: What will students be able to do	Write and test programs using Python IDLE 3.8. Understand how the CPU works. In particular the Fetch decode Execute cycle, Von Newman Architecture, and hardware	Programming skills, using the library function and the importance of testing programs. Understand what Binary is, how sound and images are represented	Understand and be able to use: length/ position substring concatenation convert character to character	Write programs that use Data Validation To be able to test using normal and boundary data	Write programs that use Text and CSV files. Read/and write Networks Protocols Hardware Typologies	Writing in Pseudocode, reading and writing in Flowcharts, abstraction and decomposition Cyber security threats Social engineering Malicious code Methods of detection
Other: Literacy/ Numeracy/ Ethos	Ethos if your program doesn't work then try again. Literacy	binary conversions & Working out size of sound and image files	Numeracy Logic gates	Numeracy	Literacy	Legal aspects of sending Malicious code
Assessment:	Formal assessment on CPU, MCQ Python	Formal assessment on Binary, Sound	Unseen programming task.	Formal assessment	Formal assessment	End of year assessment



Year 11	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content: What will students know	Learn about Searching and sorting algorithms Ethics and the law surrounding the latest technology	Review writing programs Databases and SQL Exam Technique	Review Hardware and software Review Binary and logic gates	Review Robust programs/Random and practice answering exam questions	Review Networks and cyber security	Exam Technique
Skills: What will students be able to do	Know the different types of sorting and searching algorithms Technology can cover: cyber security mobile technologies wireless networking cloud storage theft of computer code issues around copyright of algorithms/cracking/hacking wearable technologies	Know what a database is, how it is used, Know the key terms uses in SQL	Use a range of techniques to ensure students know and understand key terms on how software and hardware work together	Use a range of techniques to ensure students know and understand key terms on robust programs, and know how to use Import, and lists	Use a range of techniques to ensure students know and understand key terms on How networks run.	Students can answer long and short answer questions,
Other:Literacy/ Numeracy/ Ethos	Numeracy Literacy	Numeracy Literacy	Numeracy Literacy	Numeracy Literacy		
Assessment:	Formal assessment	Formal assessment	Formal assessment	Formal assessment		Summer Exams