

KS4 – Year 11 – Computer Science GCSE

Term	Topic Titles	Brief Overview
1	Wired and Wireless Networks	Students will study how computers are connected to form networks, the protocols they use to communicate, and the advantages and disadvantages of different network types.
	Programming skills building	Students will master basic programming tasks such as string manipulation and file handling operations, including Open, Read, Write, and Close. They'll also delve into records for data storage, utilize SQL for efficient data retrieval, employ arrays for problem-solving, and enhance code structure using subprograms like functions and procedures, while understanding random number generation's importance for diverse programming applications.
2	Systems Software and Security	Students will understand the role and function of system software, including operating systems and utility programs, in managing computer hardware and providing a platform for application software. Learning about techniques and strategies to protect networks, systems, and data from unauthorized access, attacks, and breaches.
	Programming skills building	Students will become proficient in fundamental programming tasks such as string manipulation and file handling, alongside exploring records for data storage and employing arrays, including one-dimensional (1D) and two-dimensional (2D) arrays, for problem-solving. Additionally, they'll enhance code structure using subprograms like functions and procedures, while mastering random number generation, crucial for diverse programming applications.
	Systems Architecture, Memory and Storage	Students will understand the structure of computer systems, including CPU, memory, and input/output devices, and how they work together to process data. Exploring different types of computer memory and storage devices, their characteristics, and their role in storing and retrieving data. Students will delve into fundamental programming tasks and explore data storage concepts like records and arrays
3	Exam preparation	Students will undergo rigorous exam preparation for OCR GCSE Computer Science, focusing on extended questions, multiple-choice formats, and algorithm knowledge retrieval.