GCSE Computer Science

achieve

Y10	Weeks	Topic	Rationale	Assessment	Homework	Wider Curriculum (FBV, Employability, SMSC, Cultural Capital)
Autumn	1-7	Boolean logic, units, data storage numbers and characters, computational thinking,	Students need to understand applying logical operators in truth tables and using operators and, or & not, Use of appropriate units and how data is stored alongside starting to think about computational thinking	Comp 1 & Comp2 Exam Mid & End unit assessment	Research based tasks to support learning of classroom-based tasks that are appropriate to the tasks been completed. Mind Maps to re cap learning	The students will be thinking in applying how basic number handling and data storage can be used within different jobs
	8-14	Data storage, images, data storage sound, data storage compression, designing and creating refining algorithms	Students need to be able to understand how data is stored in different contexts, images, sound and how data is compressed in the different types of compression, alongside this thinking about designing, creating and refining basic algorithms and developing practical programming	Comp 1 & Comp2 Exam Mid & End unit assessment	Research based tasks to support learning of classroom-based tasks that are appropriate to the tasks been completed. Mind Maps to re cap learning	Students need to think about how the performance of a CPU and uses of it can have an impact, and what environmental aspects can be considered about computer usage and the effect this can have on the wider population

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Spring	15-18	Architecture of a CPU, CPU performance, datatypes, programming fundamentals,	Students need to understand the architecture of the CPU and how it works and links together, the performance of this, different types of data types and how they work, and basic programming fundamentals and what these mean	Comp 1 & Comp2 Exam Mid & End unit assessment	Research based tasks to support learning of classroom-based tasks that are appropriate to the tasks been completed. Mind Maps to re cap learning	Students need to think about how the performance of a CPU and uses of it can have an impact, and what environmental aspects can be considered about computer usage and the effect this can have on the wider population
	19-21	Embedded systems, primary storage memory, secondary storage, programming fundamentals, programming techniques,	Students need to understand how an embedded system works in an item e.g. washing machine, what primary storage is and how it works and how this relates to secondary storage and this uses, while thinking about different programming fundamentals and techniques used in development	Comp 1 & Comp2 Exam Mid & End unit assessment	Research based tasks to support learning of classroom-based tasks that are appropriate to the tasks been completed. Mind Maps to re cap learning	It is important to ensure programming is robust and that what it does is socially, morally and ethically correct. Students need to think about the output of their code as they progress through and think about the complex needs as well as being encouraged to research and work collaboratively to find appropriate solutions

Summer	27-33	Secondary storage networks and apologies, additional programming techniques, practical programming skills,	Students are learning about storage, and the different types that are available and the best ones to use for different types of activity, looking at networks and topologies understanding how computers work and talk, which are the most reliable and best with most redundancy built into a system.	Comp 1 & Comp2 Exam Mid & End unit assessment	Research based tasks to support learning of classroom-based tasks that are appropriate to the tasks been completed. Mind Maps to re cap learning	Students will need to think about storage, and the network topologies used in which one provides the most reliable system so they can recommend this in future employment and set up a valid design that is ethically correct for its task for example having a mesh network that will be reliable for its intended audience and use
	34-40	Networks and topologies continued, wired and wireless networks, protocols and layers, exam prep for end of year summer mocks	Students need to understand how networks need to be set up and develop this further, and looking at protocols used on different layers of the OSI model so you understand how data flows in & out of systems and they are linked to other similar systems in different Geographical locations	Comp 1 & Comp2 Exam Mid & End unit assessment.	Research based tasks to support learning of classroom-based tasks that are appropriate to the tasks been completed. Mind Maps to re cap learning	Students need to think about wired or wireless protocols, and the ethics and dangers of using different types of networks, and promote good usage of systems to set good standards for communities and workplaces to ensure data is kept safe and secure