Year 11 Computer Science						
Curriculum intent	The curriculum has been designed to challenge, inspire and engage all students, offering them an insight into the inner workings of computers, computer networks and storage devices. The aim is to develop students' problem-solving skills through the development of coding techniques and applying these to different scenarios and challenges, thus developing the efficiency of the code. Students will look at the different types of networks and how they are designed, and the protocols used to make them functional. They will look at the risks of networked computers from cyber-crime and how to mitigate those risks.					
Term	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Sum mer 2**
Knowledge	Cyber security, how and why networks have protection, the methods used t protect them and the methods used to find and exploit vulnerabilities The different types of networks, and their performance related advantages and disadvantages How they are best used in different scenarios. Network protocols, focusing on the ones that make up the TCP/IP suite and the four layer stack. Network security, risks and how they are mitigated	Relational database, how to create and then search them using search terms Legal, Ethical and environmental issues around computers and computer networks. Trace tables, the reading and identifying outputs at different stages of the execution of code, being able to read and understand the use of pseudo code when creating and planning a programme	Data representation, focusing on number bases, binary arithmetic and how characters, images and sound or stored. The different forms of compression and how they are applied to different types of files. Exam question technique focusing on writing code to solve given problems. Review and practice database Searches	Computer systems focusing on Boolean logic and system architecture Any remaining time will be used covering topics that need extra focus.	Any remaining time will be used covering topics that need extra focus.	

Skills	Recall of knowledge. Application of knowledge. Analyse the needs of different scenarios and selecting and justifying choices	Recall of knowledge. Application of knowledge. Analyse the needs of different scenarios and selecting and justifying choices	Recall of knowledge. Application of knowledge. Analyse the needs of different scenarios and selecting and justifying choices	Recall of knowledge. Application of knowledge. Analyse the needs of different scenarios and selecting and justifying choices		
Assessments	MRT MAT: Networks	MRT MAT: Programming	MRT MAT: Data Representation	MRT: MAT: System Architecture		
Curiosity	cyber security youtube.com/watch?v=sdpxddDzXfE security labs http://www.pbs.org/wgbh/nova/labs/lab/cyber/	The brain chip https://www.youtube.com/watch?v=KsX-7hS94Yo	The brain chip, next steps https://www.cnet.com/videos/neuralinks-latest-monkey-brain-chip-demo-explained/	encryption https://www.youtube.com/watch?v=sMOZf4GN3oc		