KAA Curriculum Overview	Computer Science	Year 13 Teacher A	EOY Exam	Sequencing and Progression	
Rationale *Give an overview of what students are studying this year and why. Link directly to your overall curriculum intent.* *Students are studying how to*			*What content and skills will be assessed in the EOY exam?* *Link to model exam papers here.*	*How does this year build on what they've learnt last year?* *n /a*	*How will it benefit them as they move forward next year?*

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Sum 1	Sum 2
Link to MTP Overview						
Topic studied	Purpose of the CPU Computer Hardware Input and Output devices	Systems Software	Databases Networks	Networks	Computing related legislation Moral and ethical Issues Computational Thinking Revision	
Adjustments following last assessments / evaluation.						
Key knowledge and skills students need to have gained by the end of the unit	Describe the Fetch-Execute cycle and the role of the following registers: • Program counter • Accumulator • Memory Address Register • Memory data register • Current instruction register Describe the function of the ALU and Control Unit Describe the factors affecting the performance of the CPU: clock speed, number of cores, cache Understand the use of pipelining in a processor to improve efficiency Describe von Neumann, Harvard and contemporary processor architecture Describe the differences between, and uses of, CISC and RISC processors	Understand the function and purpose of an operating system Describe memory management (paging, segmentation and virtual memory) Describe the role of interrupts and an Interrupt Service Routine (ISR) within the fetch-decode-execute cycle Describe distributed, embedded, multi-tasking, multi-user and real-time operating systems Distinguish between systems software and applications software Describe what is meant by a utility program and give examples	Understand the difference between lossless and lossy compression Explain run length encoding and dictionary based compression Explain the concept of a relational database Normalise relations to third normal form Produce an entity relationship model for a simple scenario involving multiple entities Be able to use SQL to retrieve data from multiple tables of a relational database Be able to interpret and modify SQL Describe methods of capturing, selecting, managing and exchanging data Describe what is meant by transaction processing and ACID	Understand the structure of the Internet Describe the term 'Uniform Resource Locator' (URL) in the context of networking Explain the terms 'domain name' and 'IP address' Discuss network security and threats Discuss use of firewalls, proxies and encryption Describe circuit switching and packet switching Understand the role of packet switching and routers Understand the function of network hardware devices	To be aware of computing related legislation, including: • The Data Protection Act 1998 • The Computer Misuse Act 1990 • The Copyright Design and Patents Act 1988 • The Regulation of Investigatory Powers Act 2000 Discuss the individual (moral), social (ethical) and cultural opportunities and risks of digital technology, including: • computers in the workforce • automated decision making • artificial intelligence • analysis of personal information Discuss the cultural opportunities and risks of digital technology relating to: • censorship and the Internet • the monitoring of behaviour • piracy and offensive	

	Describe multicore and parallel systems Describe different input devices Explain how different input devices can be applied as a solution to different problems Describe how different output devices can be applied as a solution of different problems Describe the characteristics and uses of RAM and ROM Understand what is meant by virtual storage. Describe the uses of magnetic, flash and optical storage devices		(Atomicity, Consistency, Isolation, Durability) Describe what is meant by record locking and why it is necessary in a multi-user database Describe what is meant by redundancy	To understand HTML and the role of HTML on the World Wide Web To understand CSS and the role of CSS in Web Pages Be able to add HTML form controls to a web page Explain the role of JavaScript inside web pages Understand and follow JavaScript syntax To understand how web pages are indexed by search engines To understand the PageRank algorithm To understand the client/server and peer-to-peer models Describe situations where each model may be used To understand client and server side processing	communications • layout, colour paradigms and character sets Understand the nature of and need for abstraction Describe the differences between an abstraction and reality Devise an abstract model for a variety of situations	
How is understanding assessed at the end of the unit?	Unit Assessment	Unit Assessment	Unit Assessment	Unit Assessment	Unit Assessment	EoY Exam