Y11 Computer Science - CURRICULUM PLANNING SEQUENCE

Subject	Year	Term	Big Ideas	Subject Learning Checklist
GCSE Computer Science	Year 11	Term 1 - 35hrs	3.8 Aspects of software development	3.8 Aspects of software development
			3.9 (Prep) Coding examples	3.9 (Prep) Coding examples
			3.1 Algorithms	3.1.1 Representing algorithms
				3.1.2 Efficiency of algorithms
				3.1.3 Searching algorithms
				3.1.4 Sorting algorithms
		Term 2 - 30hrs	3.2 Programming	3.2.1 Data types
				3.2.2 Programming concepts
				3.2.3 Arithmetic operations in a programming language
				3.2.4 Relational operations in a programming language
				3.2.5 Boolean operations in a programming
				3.2.6 Data structures
				Introduce coursework task NEA
				3.2.7 Input/output and file handling
				3.2.8 String handling operations in a programming language
				3.2.9 Random number generation in a programming language
				3.2.10 Subroutines (procedures and functions)
				3.2.11 Structured programming
				3.2.12 Robust and secure programming
				3.2.13 Classification of programming languages
			3.3 Data representation	3.3.1 Number bases
				3.3.2 Converting between number bases
				3.3.3 Units of information
				3.3.4 Binary arithmetic
				3.3.5 Character encoding
				3.3.6 Representing images
				3.3.7 Representing sound
				3.3.8 Data compression
		Term 3 - 15hrs	3.4 Computer systems	3.4.1 Hardware and software
				3.4.2 Boolean logic
				3.4.3 Software classification
				3.4.4 Systems architecture
				3.5 Fundamentals of computer networks
			3.6 Fundamentals of cyber security	3.6 Fundamentals of cyber security
				3.6.1 Cyber security threats
				3.6.1.1 Social engineering
				3.6.1.2 Malicious code
				3.6.2 Methods to detect and prevent cyber security threats
			3.7 Ethical, legal and environmental impacts	3.7 Ethical, legal and environmental impacts of digital technology on wider society, including issues of privacy