Key Stage 4 Digital Functional Skills Qualification (DFSQ)
and G.C.S.E Computer Science Curriculum Overview

- All Key Stage 4 students will complete the Digital Functional Skills curriculum as a Core subject and will be offered the opportunity to gain the Digital Functional Skills Qualification at Functional Skills Entry level 3 or Functional Skills level 1.
- Students who demonstrate a higher ability in Computing, a passion for the technical demands required and a commitment to independent study (outside of the curriculum delivery), will also have the opportunity to engage in additional study to complete the requirements for the GCSE Computer Science taking the GCSE exam in the Summer term of yr11.

Digital Functional Skills Qualification (DFSQ)						
Year/Term	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 1 45 hours	Using Devices and Handling Information	Creating and Editing	Communicating	Transacting	Being Safe and Responsible Online	Task Based Assignment & Questions

G.C.S.E Computing						
Year/ Term	**Autumn 1**	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 1	Introduction to programming Decomposition, algorithms Data types, variables Input and integer functions, debugging tools Flowcharts Assessment 1 Course introduction Binary Unsigned integers Binary arithmetic Two's complement 1 Assessment 2	String manipulation, string methods if, if else, relational operators if, if else, readability Boolean operators Repetition (while) Assessment 1 Two's complement 2 Logical binary shifts Arithmetic binary shifts Hexadecimal ASCII Assessment 2	One-dimensional lists for loops, range function Procedures Functions Subprogram-s Assessment 1 Stored program concept Fetch-decode-execute 1 Fetch-decode-execute 2 Secondary storage 1 Secondary storage 2 Assessment 2	string format () Two-dimensional lists Validation Linear search (one-dimensional) Linear search (two-dimensional) Assessment 1 Operating system OS: File management OS: Process management OS: Peripheral & user management Utility software Assessment 2	Merge sort Reading files String processing Writing files Authentication Assessment 1 Malware & anti-malware Hackers Social engineering Data level protection Robust software Assessment 2	Turtle introduction, pens, and lines Turtle movement, coordinates, polygons, Turtle pens, colours, filling, and circle Turtle combining subprograms, layers Turtle big problem Assessment 1 LANs & WANs Networks speed Connectivity Wired v. wireless Network topologies Assessment 2

Year/ Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 2	Intro to programming Subprograms Local, global Maths, time Problem solving Assessment Embedded systems The Internet of Things Packet switching TCP/IP 1 TCP/IP 2 Assessment	Trace tables Errors Bubble sort Binary search Problem solving Assessment Environmental impact: manufacture & use Environmental impact: e-waste Low-level & high-level languages Translators Intellectual Property Assessment	Data types, string manipulation, validation Data structures (one-dimensional) Trace tables Errors Problem solving Assessment Bitmaps Bitmaps Sound Sound Compression Assessment	Data structures (two-dimensional) Subprograms (local, global, procedures, functions) Problem solving Trace tables, errors Problem solving, testing with data Assessment AI, machine learning & robotics 1 AI, machine learning & robotics 2 Personal data Privacy & ownership Data protection legislation Assessment	Revision And Exams	