Computing - Curriculum overview

	Year 7	Year 8	Year 9	Year 10	Year 11	KS5
Computer Science	1. Develop simple programs using text based programming language **(Small Basic)** 2. Utilise abstraction to better understand problems. **(Small Basic)** 3. Design simple algorithms to solve problems. **(Small Basic)** 4. Understand the hardware and software components that make up computer systems and how they communicate with one another **(Networks)**	1. Develop simple programs using programming languages. **(Python)** 2. Design algorithms to solve problems.**(Python)** 3. Utilise sequence, selection and iteration in the **(Python)** 4. Convert between base 2 and base 10 numbers. **(Understanding computers)** 5. Identify the internal components of a computer system **(Understanding computers)**	1. Utilise sequence selection and iteration in the design and creation of a program to solve a real world problem. **(Python)** 2. Understanding and discovering the link between binary digits and digital media. **(Going Audiovisual)** 3. Planning and writing code which interacts with real life physical computing devices. **(MicroBits)**	**GCSE Comp Sci -** 3.1 - Fundamentals of Algorithms 3.2 - Fundamentals of programming 3.3 - Fundamentals of Data Representation 3.4 - Computer Systems	**GCSE Computer Science** - 3.5 - Fundamentals of Cyber Security 3.6 - Fundamentals of Computer Networks 3.7 - Relational Databases and SQL 3.8 - Ethical, legal and environmental impacts of IT.	A-Level Computer Science - 1 Fundamentals of programming 2 Fundamentals of data structures 3 Systematic approach to problem solving 4 Theory of computation 5 Fundamentals of data representation 6 Fundamentals of computer systems 7 Fundamentals of computer organisation and architecture 8 Consequences of uses of computing 9 Fundamentals of communication and networking
Information Technology	1. Use of spreadsheet software to manipulate and understand data. **(Spreadsheet modelling)** 2. Social aspects of IT 3. The understanding and use of websites to promote a cause. **(Promoting a cause)**	1. User interface design - Reuse digital artifacts for a given design **(Websites) -** 2. Choose appropriate software/hardware for a given scenario. **(Understanding computers)**	1. IT Project development and design **(Creative Media + Websites).** 3. Justify the choice of appropriate software/hardware for a given scenario. **(Creative Media - 3D modelling)**	**BTEC DIT** - Component 1 - Types of user Interface Component 2 - Spreadsheet modelling	**BTEC DIT -** Component 3 - Effective Digital Working Practices	BTEC Nationals - Unit 1 - Information Technology Systems Unit 2 - Database Management Unit 3 - Using Social Media Unit 5 - Data Modelling BTEC AAQ - Unit 1 - Information Technology Systems Unit 2 - Cyber Security and

						Incident Management Unit 3 - Website Development Unit 4 - Relational Database Development
Digital Literacy	1.Be safe and responsible when online. **(Getting Started)** 2. Use of the network. **(Getting Started)** 3. Online learning platforms **(Getting Started)** 4. AUP **(Getting Started)**	1. Legal aspects of IT through cyber security. **(Cyber Security)** 2. AUP	1. Ethical considerations in IT. 2. AUP 3. Understand how cyber criminals steal data, infiltrate networks and disrupt systems. **(Cyber Security)**	Embedded in BTEC DIT (examined within Component 3) and GCSE Computer Science Specifications (examined within specification component 3.7) AUP covered at start of year in each year group.		