

Computing - Curriculum overview

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

	<u>(Promoting a cause)</u>					
Digital Literacy	<p>1. Be safe and responsible when online. <u>(Getting Started)</u></p> <p>2. Use of the network. <u>(Getting Started)</u></p> <p>3. Online learning platforms <u>(Getting Started)</u></p> <p>4. AUP <u>(Getting Started)</u></p>	<p>1. Legal aspects of IT through cyber security. <u>(Cyber Security)</u></p> <p>2. AUP</p>	<p>1. Ethical considerations in IT.</p> <p>2. AUP</p> <p>3. Understand how cyber criminals steal data, infiltrate networks and disrupt systems. <u>(Cyber Security)</u></p>	<p>Embedded in BTEC DIT (examined within Component 3) and GCSE Computer Science Specifications (examined within specification component 3.7)</p> <p>AUP covered at start of year in each year group.</p>		