

	Exam Board & Specification	Half term 1 (Autumn)	Half term 2 (Autumn)	Half term 3 (Spring)	Half term 4 (Spring)	Half term 5 (Summer)	Half term 6 (Summer)
Year 7 Key stage 3		<p>Collaborative Online Learning</p> <p>How to communicate respectfully online.</p>	<p>Modelling</p> <p>Spreadsheet development and modelling. Use of formulas, functions, graphs, condition</p>	<p>Programming in Scratch</p> <p>Develop a program using a range of programming techniques including: the use of variables, sequence, selection and iteration.</p>	<p>Graphics</p> <p>Using a range of software packages and tools to produce different graphics.</p>	<p>Networks</p> <p>Understand what a network is, network hardware, types of network and factors affecting network performance.</p>	<p>Computation Thinking - Algorithms</p> <p>Explore how to plan algorithms using flowcharts.</p>
Year 8 Key stage 3		<p>Computer Systems</p> <p>Understand what a computer system is. Discover the internal and external hardware components of a computer system, as well as different types of software.</p>	<p>Web Development (HTML)</p> <p>Design and develop a website using HTML.</p>	<p>Data Representation</p> <p>Develop skills in converting binary and denary numbers.</p>	<p>Databases</p> <p>Understand the uses of databases. Create and populate a database, run queries and reports.</p>	<p>Introduction to Programming in Python</p> <p>Develop programming skills in Python using a range of programming techniques including: the use of variables, sequence, selection and iteration.</p>	<p>Impact of Technology</p> <p>Discuss the impacts of technology on everyday life and businesses.</p>

<p>Year 9 Key Stage 3</p>		<p>Data Representation</p> <p>Develop a deeper understanding of binary, denary and hexadecimal conversions. Understand how images and sound are represented digitally.</p>	<p>Programming in Python</p> <p>Develop a deeper understanding of programming in Python using a range of programming techniques including functions and procedures.</p>	<p>Problem Solving</p> <p>Use a range of problem-solving techniques to solve real world problems.</p>	<p>Cybersecurity</p> <p>Understand the threats to networks and how to prevent them.</p>	<p>Artificial Intelligence</p> <p>Explore artificial intelligence and examples of real-world AI machines.</p>	<p>IT and the World of Work</p> <p>Explore how IT and computing are used by organisations. Discover careers within IT and computing.</p>
<p>Year 10 Key Stage 4</p>	<p>OCR GCSE Computer Science</p>	<p>Programming Fundamentals</p> <p>Use a wide range of programming techniques to develop programs in Python.</p>	<p>Data Representation & Boolean Logic</p> <p>Develop a deeper understanding of how images and sound are stored digitally. Understand how logic gates are used in computer systems and produce truth tables for logic gates and circuits.</p>	<p>Computer Systems</p> <p>Understand how internal components work together. Discuss factors affecting CPU performance. Understand the purpose of primary and secondary storage.</p>	<p>Computational Thinking</p> <p>Understand the principles of computational thinking (abstraction, decomposition, algorithmic thinking). Discuss how they are used to define and refine problems.</p>	<p>Networks</p> <p>Develop an understanding of the characteristics of different network types, factors affecting performance, protocols and standards.</p>	<p>Network Security</p> <p>Understand the threats posed to networks and methods used to reduce the risk of these threats.</p>

Department Curriculum for IT & Computer Science

	BTEC L2 Information Technology	Exploring User Interface Design Principles and Project Planning Techniques Investigate user interface design for individuals and organisations.	Exploring User Interface Design Principles and Project Planning Techniques Use project planning techniques to plan and design a user interface.	Exploring User Interface Design Principles and Project Planning Techniques Develop and review a user interface.	Effective Digital Working Practices Understand how current and modern technologies are used by and have an impact on organisations and their stakeholders.	Effective Digital Working Practices Understand how modern technologies impact on the way organisations perform tasks. Discuss how technologies are used to manage teams, to enable stakeholders to access tools and services, and to communicate effectively.	Effective Digital Working Practices Understand how the increased reliance of organisations on digital systems to hold data and perform vital functions presents a range of challenges and dangers.
Year 11 Key stage 4	OCR GCSE Computer Science	Algorithms Complete, write a refine algorithms. Use flowcharts and pseudocode to plan algorithms.	System Software & Legislation Explore the purpose and function of operating systems and utility software. Understand the legislation relevant to Computer Science and the impacts of technology on the wider society.	Programming Languages, Defensive Design and Testing Understand the different types of programming languages and discover how to test computer programs.	Revisiting Topics Revisiting topics and consolidating prior learning.	Revisiting Topics Revisiting topics and consolidating prior learning.	



Department Curriculum for IT & Computer Science



	BTEC L2 Information Technology	Effective Digital Working Practices Understand how legislation covering data protection, computer crimes and intellectual property has an impact on the way that organisations and individuals use digital systems and data.	Collecting, Presenting and Interpreting Data Investigate the role and impact of using data on individuals and organisations.	Collecting, Presenting and Interpreting Data Create a dashboard using data manipulation tools.	Collecting, Presenting and Interpreting Data Draw conclusions and review data presentation methods.		
--	---	--	---	--	--	--	--