

## Key Stage 3

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 7	<p><b>Clear messaging in digital media</b> Combining the use of digital tools and online collaboration to produce media</p>	<p><b>Networks – from semaphones to the internet</b> Recognising networking hardware and explaining how networking components are used for communication.</p>	<p><b>Using Media – Gaining support for a cause</b> Creating a digital product for a real-world cause.</p>	<p><b>Programming essentials in Scratch (1)</b> Applying the programming constructs of sequence, selection and iteration in Scratch</p>	<p><b>Programming essentials in Scratch (2)</b> Using subroutines to decompose a problem that incorporates lists in Scratch</p>	<p><b>Modelling data using spreadsheets</b> Sorting and filtering data and using formulas and functions in spreadsheet software</p>
Year 8	<p><b>Developing for the web</b> Using HTML and CSS to create webpages</p>	<p><b>Representations – from Clay to silicon</b> Representing numbers and test using binary digits</p>	<p><b>Mobile app development</b> Using event driven programming to create and online gaming app</p>	<p><b>Media – Vector Graphics</b> Creating vector graphics through objects, layering and path manipulation</p>	<p><b>Layers of computing systems</b> Exploring the fundamental elements that make up a computer system</p>	<p><b>Introduction to Python programming</b> Applying the programming constructs of sequence, selection and iteration in Python</p>
Year 9	<p><b>Python programming with sequences of data</b> Manipulating strings and lists. Creating a programming object</p>	<p><b>Media animations</b> <b>Creating 3D animations</b> through object manipulation, tweaking and adjusting lighting and camera angles</p>	<p><b>Data Science</b> Using data to investigate problems and make real-world changes.</p>	<p><b>Representations – going audio-visual</b> Representing images and sound using binary digits</p>	<p><b>Introduction to cyber security</b> Identifying how users and organisations can protect themselves from cyberattacks.</p>	<p><b>Developing physical computing projects</b> Sensing and controlling with the micro:bit</p>

## Key Stage 4 GCSE

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Year 10 GCSE	<b>Programming 1: Sequence (5 lessons)</b> Determine the need for translators. Use Sequence, variables and input in Python. Design programs using a flowchart	<b>Programming 2: Selection (6 lessons)</b> Use randomisation in programs. Work with arithmetic and logical expressions. Use selection and nested selection in Python	<b>Programming 3: Iteration (6 lessons)</b> Use while loop and for loop in Python. Perform validation checks on data entry. Design programs using pseudo code.	<b>Programming 4: Subroutines (7 lessons)</b> Explain the difference between a procedure and a function. Describe scope in variables. Use functions and procedures as part of the structured approach to programming. Test a program for robustness.	<b>Programming 5: Strings &amp; lists (11 lessons)</b> Define the term 'graphical user interface' (GUI). Perform string handling operations. Describe the differences between a list and an array. Manipulate a list. Work with 2D lists.	<b>Algorithms 2: Searching and sorting (9 lessons)</b> Describe a linear and binary search. Explain the key algorithms for a bubble, merge and insertion sort
	<b>Computer Systems (13 lessons)</b> Describe the role of the CPU. Explain the processes of the fetch-decode-execute cycle. Determine the role of main memory and secondary storage. Construct truth tables for three input logic circuits. Write a program using assembly language (LMC)			<b>Algorithms 1 (3 lessons)</b> Define the terms 'decomposition', 'abstraction' and algorithmic thinks'. Use trace tables	<b>Data representation (10 lessons)</b> Explain how number, text, images and sound are represented using binary digits. Convert between Terms of measurement.	
Year 11 GCSE	<b>Programming 6: Dictionaries and data files (12 lessons)</b> Use a record and a dictionary structure. Access and modify external data files. Complete a complex programming project.			<b>Databases and SQL (5 lessons)</b> Describe a database and list its key terms. Determine the difference between a flat file and a relational database. Use structured query language (SQL) to retrieve and update data in a database)	<b>HTML (8 Lessons)</b> Create a website using HTML & CSS	<b>OOP (optional) 5 lessons</b> <b>Define and apply the principles of object-orientated programming. Create a class in Python and use its attributes and methods.</b>
	<b>Impacts of technology (8 lessons)</b> Determine the ethical, legal, environmental and cultural impacts of technology	<b>Computer networks (8 lessons)</b> Describe network components. Explain connectivity and distinguish between various types. Describe the four layers of the TCP/IP model. Protect a network from threats.	<b>Network Security (7 lessons)</b> Describe the various ways that users and organisations can be affected by cyber-attacks. Demonstrate how organisations can prevent cyber-attacks.			

## Key Stage 4 Non-GCSE

<b>Year 10/11 Non GCSE</b>	Term 1	Term 2	Term 3	Term 4	Term 5
	<p><b>Online Safety: 10 lessons</b> Recognise ways to build a positive online reputation. Discuss the ethics surrounding big data, identify fake news and explain why it exists. Describe the laws governing online content. Recognise illegal content and how to report it.</p>	<p><b>IT and the world of work: 6 lessons</b> Examine modern technology tools that assist with inclusivity and accessibility. Evaluate effective online communication and collaboration. Create a positive work environment for remote working.</p>	<p><b>Media: 7 lessons</b> Create pre-production planning materials. Create raster and vector graphics. Utilise the software required for digital video creation. Create a multipage website using open source tools.</p>	<p><b>Spreadsheets: 6 lessons</b> Use functions, formulas and formatting in a spreadsheet. Develop a spreadsheet for a given scenario.</p>	<p><b>IT project management: 10 lessons</b> Identify why project management is important and recognise common tools used. Manage a project for a given scenario.</p>