	Half Term	Year 7	Year 8	Year 9	Year 10	Year 11
Autumn Term	1	**7.1 Intro:** This unit prepares pupils to use the technology that will support their learning in Year 7 and beyond. We look at password security, email, show my homework, google drive, input and output devices, how to print in school, how to search the internet and then an introduction to copyright and plagiarism	**8.1 HTML (notepad)** Pupils learn to program for the web by using HTML to create a websie. They learn about tags and how to structure a webpage. Skills learn include formatting text, use of colour (including RGB colour chart) tables and hyperlinks	**9.1 Photo editing, vector and bitmap and file types.** In this unit the focus is on how to edit images for an audience. Pupils learn that images that they see are not necessarily real as they may have been edited. There is also a focus on the types of files that can be used for images and the differences between them including file compression.	**Computer Science** **Unit 1 Computer hardware** • Computer system • Input & output devices • Specialist devices • Converging & changing technology **Unit 2 - Computational thinking** • Algorithms • Program control flow • Handling data • Programming languages • IDE • Testing **Vocational IT** **R050: Types of design tools** **R060: TA1 - Planning and designing the spreadsheet solution** **R070 TA2 - Designing an AR model prototype. Planning and design consideration**	**Creative iMedia** **R082 Graphics -** compulsory Unit: Students will complete the current iMedia exam board set assignment on the mandatory unit R082 Creating Digital Graphics partially completed in year 10. They will use graphics software, Research designs, create an image, using advanced ICT Skills and evaluate their work. . This unit aims to give students the skills to use the tools and techniques provided by artwork and imaging software to design and create effective graphic products for specified purposes and audiences. Students will demonstrate their ability to create effective images and graphic products through their work on a major project set by OCR.
	2	**7.2 E safety:**	**8.2 Animation and Video Editing**	**9.2 Coding and Data**	**Computer Science**	**2nd Optional Unit of choice:**

		Within this unit pupils are taught how to keep themselves safe online and when using a computer. We look at how cyberbullying affects an individual and what to do if someone is being cyberbullied. We look at social media and discuss the advantages and disadvantages of such technologies. Pupils look at netiquette and how they are leaving a digital footprint	Pupils look at how animations are created using frames and layers. They learn about frame rate. This develops into using transitions to create a video for a target audience	Representation This unit looks at how a computer stores text, images and sound as binary values. It looks at how data is stored (compressed) using different methods. Pupils look at how analogue sound files are sampled into digital sound files.	**Unit 1 Systems** Architecture • CPU • Performance • Memory • Secondary storage **Unit 2 Practical** programming skills • Fundamentals • Sequence • Selection • Iteration ## Vocational IT **R050: Human Computer Interface in everyday life - Purpose, importance and use of HCI in application areas, Hardware considerations, Software consideration, User interaction methods** **R050: Data & Testing - Information & data, Data use** **R060: HCI design conventions and principles, Functionality, Types of outputs, HCI navigation**	Students can select an Optional Unit from the examination board list this can either be: R083 Creating 2D and 3D digital Graphics R084 Story Telling with Comic Strip R085 Creating a website R086 Creating an Animation R087 Creating an IMP R088 Creating a digital sound sequence R089 Creating a digital video sequence R090 Digital photography R091 Designing a Games Concept R092 Developing digital games

		7.3 Spreadsheets:	8.3 Web Authoring	9.3 Database relational;	**Computer Science**	
Spring Term	3	Pupils learn the basics of spreadsheets to analyse data. They look at basic formulas and functions and learn how to display information in graphs.	Pupils move from text-based programming of a website to using an editor to develop a webpage. They learn more advanced features and focus on audience needs and purpose alongside accessibility features to make the website more usable. Students will create web pages which cover the following topics: E-Safety, information, reliability, bias, legislation, plagiarism, ethical issues. Topic History and the Future of Computing	This unit looks at developing pupils' understanding of databases and teaches the use of relational databases to show how information can be retrieved from more than one related table.	**Unit 1 Software** • Application • User interface • Functions of OS • System utilities **Unit 2 Data Representation** • Units • Binary numbers • Binary arithmetic • Hexadecimal • Characters • Images • Sound • Compression **Vocational IT** **R060: Creating the spreadsheet solution - Data handling & manipulation, Techniques to generate the outputs, User interface** **R060: Testing the spreadsheet solution, Test the user interface and technical aspects of the spreadsheet solution** **R060: Evaluating the spreadsheet solution- Methods used to evaluate**	
	4	**7.4 Cryptology, Flowol**	**8.4 Python Chatbot**	9.4: Python;	**Computer Science**	

		Sequence/shapes/Boole an operator. This unit looks at how data is secured on a computer using cryptography.	Within this unit pupils develop their understanding of Python to further understand variables and data types. Pupils build upon knowledge of iteration (loops) to make more efficient programs.	Searching and Sorting Pupils' knowledge of python is further developed by learning how to read and write to txt files. They develop skills in handling data in Python and being able to question the data to find answers. Additionally, pupils learn how to search and sort data effectively using Linear and Binary searches and bubble and merge sorts. Pupils also learn about how computers hold data in arrays.	**Unit 1 Networks** • Internet • WAN • LAN • Wireless networking • Client server • P2P networks • Standards, Protocols & Layers **Unit 2 Algorithms** • Searching • Sorting **Vocational IT** **R060: NEA Assessment (working on)** **R070: Augmented Reality (AR) - Purpose and uses of AR, Types of AR and user interaction, Devices used with AR**	**Preparation for exam** (retakes) May/June. Students will need to understand the purpose and content of pre-production, Optional units Completion of any outstanding coursework
Summer Term	5	**7.5 Scratch** Within this unit pupils look at computational thinking and learn block programming to create a game. Pupils learn about Cartesian coordinates, IF statements, Forever loops and then move onto variables. Pupils learn about sequence, selection and iteration.	**8.5 Spreadsheets:** This unit looks at developing spreadsheet skills to enable pupils to ask 'what if' questions to a model. Work develops to look at naming cell ranges, sorting data, vlookups and other more advanced skills such as writing macros and protecting the cells.	**9.5 and 9.6:** The final double unit brings together many aspects of computing where pupils develop an understanding of the system life cycle by planning, Researching, Designing, Implementing and Reviewing a large project. They use tools learnt throughout KS3 to help them undertake this task such as the use of spreadsheets and databases to create	**Computer Science** **Unit 1 Network Security & Systems software** • Network threats • Preventing vulnerabilities • OS • Utility software **Unit 2 Practical programming skills** • Arrays • Procedures • Functions • Records • Files **Vocational IT**	

				financial models and store information.	**R060: NEA Assessment (working on)** **R060: NEA Assessment (submit for moderation)** **R050: Data and testing , Data collection methods, Storage of collected data** **R050: Digital communications -Types, Software, Digital devices, Distribution channels, Audience demographics**	
	6	**7.6: Introduction to text-based programming** (logo, turtle, Python) This is pupils' first introduction to text-based programming. In this unit pupils learn the syntax of python and develop programming skills that require accuracy and problem solving.	**8.6 Database Flat file:** It is important that pupils understand how data is stored. This unit explains this and teachers' pupils how to create and use a database that they can search to find the information that they require.		**Computer Science** **Problem solving consolidation project** **Vocational IT** **R050: Internet of Everything (IoE) Use of IoE, Application areas in everyday life** **R070: Designing an AR model prototype , Planning and design consideration, Design tools** **R070: Creating and AR model prototype, Triggers, Layers/ user interaction, Information output**	