KS3 - Computing

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	**E-Safety** - How to stay safe online - Online dangers & Risks - Social Media - Cyber Bullying	**Components & Binary Representation combined** - Input & Output Devices - Binary Logic Gates - Secondary Storage - Introduction to binary	**Scratch** - What makes a good game - Backgrounds, Sprites & Costumes - Simple animation - Using Variables	**Python programming** -Print function -Variables -Using Strings -Comments -Input from a user	**Adobe Photoshop** - How images stored in a computer (bitmap images) - Photoshop: Layers, images, filters, tools, importing images, adding text. - Creating a Magazine cover	**Components & Binary Representation combined** - The CPU - Hexadecimal - Software & Hardware - Bitmap Images - How computers work
Year 8	**Computer Crime & Cyber Security** - E-mail - Hacking - Protecting personal data - Copyright - Health & Safety	**The Internet** - How search engines work - Connectivity - Network Topologies - Client-Server Networks	**Introduction to Python/ Programming/ BBC Microbit** - Sequencing - Variables & Lists - Iteration & Selection - Creating a Rock, Paper Scissors Game using the Accelerometer	**Computer Components** - The CPU - Memory - Secondary Storage - Hardware - Software	**Adobe Photoshop** - Using layers, Adding text, Removing red eye - Using filters, Brush tool, hot spot removal - Planning poster techniques / Visualisation Diagram	**Introduction to Binary & Representation** - Binary - Logic Gates - Hexadecimal - Bitmap as Binary
Year 9	**KS3 - iMedia** **Pre Production Skills** - Mood boards - Mindmaps/spider diagrams - Visualisation diagrams	**Pre Production Skills** - Storyboards - Scripts - Timescales - Work plan	**Digital Graphics** - Why and how digital graphics are used - Different types of digital graphics - File formats - Properties and purposes of digital graphics	**Photoshop** - Layers, images, filters, tools, importing images, adding text.	**Pre Production Skills** - Hardware & software - Health & safety - Legislation	**Pre Production Skills** - File formats - eviewing a digital graphic - Identifying areas for improvement
	KS3 - Computing **Fundamentals of Computer Systems** - The CPU - Memory - Secondary Storage - Input and Output Devices	**Representation of Data in Computer Systems *(not completed)*** - Data Representation - Hexadecimal - Data Representation - Adding Binary - Data Representation - Images	**Python Programming** - Algorithms flow diagrams and pseudocode - Python - Introduction - Python – Strings and data types - Python - Functions - Python - Program Control Flow - Python- Handling Data in an Algorithm	**Python Programming** - Python-Programming Languages - Python – The IDE, Errors and debugging tools - Python – Testing	**Python Programming** - Python Project	**Python Programming** Python Revisited

KS4 - GCSE Computer Science

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	**Component 1** - Systems Architecture	**Component 1** - Memory, Storage & Data Representation	**Component 1** - Computer Networks, Connections & Protocols	**Component 1** - Network Security	**Component 1** - System Software	**Component 1** **Ethical & Legal concerns.** **Impact of digital technology** - Ethical, legal, cultural and environmental concerns
Year 11	**Component 2** **Algorithms** - Translators and facilities of languages - Software - Systems Security - Data Representation recap - Characters	**Component 2** **Programming Fundamentals** - Ethical Issues - CPU Architecture - Memory/Storage recap - Wired and Wireless Networks	**Component 2** **Producing Robust Programs** - Network Topologies, protocols and Layers - Systems Software - Searching and Sorting Algorithms - Algorithms	**Component 2** **Programming Boolean Logic** - Programming techniques - Arrays - String manipulation - File handling	**Component 2** **Programming Languages & IDE** - Producing Robust programs - SQL - Controlled Assessment Tasks - Preparation for Exams	**Component 2** **Course Completion/ Revision for exam**

KS4 - Creative iMedia Cambridge Nationals Level 1/2

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 10	**R082 Creating Digital Graphics** - Why and how digital graphics are used - Different types of digital graphics - File formats	**R082 Creating Digital Graphics** - Properties and purposes of digital graphics - Interpreting client requirements for a digital graphic - Producing a visualisation diagram - Identify the resources needed to create a digital graphic	**R082 Creating Digital Graphics** - Legislation - Reviewing a digital graphic - Identifying areas for improvement	**R090 Digital Photography unit dropped** - Capabilities & limitations of different digital cameras - Features & settings of digital photographic equipment - Suitability of digital cameras for specific purposes - Rules of photography and composition	**R090 Digital Photography unit dropped** - Interpret client requirements for a photo shoot - Understand the target audience requirements for a photo shoot - Work plan - Legislation	**R090 Digital Photography unit dropped** - Taking digital photographs - Create a digital photographic portfolio to meet client requirements -Identifying areas for improvement
Year 11	**R081 Pre Production Skills** - Mood boards - Mind maps/spider diagrams - Visualisation diagrams - Hardware and software - Health and safety	**R081 Pre Production Skills** - Storyboards - Scripts - Timescales - Research on creative digital media products - Work plan - Legislation	**R087 Creating Interactive Products** - Properties of interactive multimedia products - Plan a multimedia interactive multimedia product	**R087 Creating Interactive Products** - Identifying the assets and resources for the interactive multimedia product - Create an interactive multimedia product	**R087 Creating Interactive Products** - Test the interactive multimedia product - Review the interactive multimedia product	**Course End**

KS5 - Computing and IT

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 12	**Level 2 Cambridge Technical Certificate in IT**					
	Unit 1 Essentials of ICT - IT solutions used in modern world - How solutions are designed to help businesses to operate. - Computer hardware and software	**Unit 2 Cyber Security:** - Threats and vulnerabilities that can have an impact on individuals and organisations - Understanding of cyber security issues that will prepare you to study this suite of qualifications	**Unit 17 Using Data Analysis Software:** - How data used must be grouped, sorted, validated and processed to make it understandable and useful. - Understand the difference between data and information and the quality of the data needed to be analysed for a given business	**:Unit 16 Social Media for Business** - Identify the most suitable channel to communicate a business needs - Create content and use the social media tools available to publish this content.	**Unit 17 Using Data Analysis Software:** - Revisited **Unit 16 Social Media for Business** - Revisited **Unit 1 & Unit 2 Revision** - Revision	**Course End**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 12	**CTEC Level 3 Cambridge Technical Introductory Diploma in IT**					
	Unit 1 Fundamentals of ICT - Understanding of IT technologies and practices is essential for IT professionals	**Unit 1 Fundamentals of ICT** - Solid foundation in the fundamentals of hardware, networks, software, the ethical use of computers and how business uses IT.	**Unit 2 Global Information** - Greater understanding of how organisations use information sources both internally and externally	**Unit 2 Global Information** - Knowledge of the functionality of information and how data is stored and processed by organisations.	**Unit 1 & Unit 2 Revision**	**Unit 13 - Social Media for Business and Digital Marketing** - Investigate how social media can be used to support the operation and marketing of a business.
Year 13	**Unit 13 Social Media for Business and Digital Marketing** - Propose and produce a demonstration digital marketing campaign.	**Unit 6 Application Design Unit 21 - Website Prototyping** - Gain experience in studying system development methods	**Unit 6 Application Design Unit 21 Website Prototyping** - Take the role of a systems analyst and developer, create a prototype application for a client with associated user documentation using web design software	**Unit 6 Application Design Unit 21 Website Prototyping**	**Unit 6 Application Design Unit 21 Website Prototyping**	**Course End**

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 12	**Level 3 BTEC National in Computing - *Extended Certificate***					
	Unit 1 Principles of computer science - Computational thinking - Algorithms	**Unit 1 Principles of computer science** - Programming and Types of programming Languages	**Unit 1 Principles of computer science** - Data representation and architecture - Project by programming a solution for a client - Hardware and software, Algorithms and programming, networks and databases.	**Unit 3 System security and encryption** - Current IT security threats, information security and the legal requirements affecting the security of IT systems.	**Unit 3 System security and encryption** - Cryptographic techniques and processes used to protect data	**Unit 3 System security and encryption** - Techniques used to protect an IT system from security threats
Year 13	**Unit 2 Fundamentals of computer science** - Hardware and Software - Computer Architecture - Data Representation	**Unit 2 Fundamentals of computer science** - How Data is organised - How data is transmitted	**Unit 2 Fundamentals of computer science** - Use of Logic and data flow in a computer system	**Unit 4 Website development or Mobile Apps development** - Principles of website/ APP development	**Unit 4 Website development or Mobile Apps development** - Design, develop and evaluate a website/ APP making use of scripting techniques.	**Course End**