

Curriculum overview:

Across Key Stage 3 we aim to enable our students to become effective users of technology by providing a range of opportunities to solve problems, control and manage computer systems, work and organise themselves electronically as well as understanding the legal and ethical implications of using technology in today's society.

We also aim to expose them to the wide range of opportunities locally and nationally for a digitally skilled workforce and encourage them to establish positive working habits beyond school.

Across Key Stage 3 our students should learn:

Computer Science

- To use computational thinking to solve problems and make things for a purpose
- About computer hardware, operating systems and how computers process data
- How to create algorithms to represent solutions to problems
- To create computer code in a range of languages
- That different techniques can be used to make computer code more efficient including loops, variables, IF statements and logic operators

Digital Literacy

- What the cloud is and how to utilise cloud services
- To be proficient in using a range of digital online/offline applications
- To understand how to use select appropriate digital tools to achieve a solution and present work for a range of audiences
- To create computer models
- How to find information effectively in the digital world and assess its reliability

Digital Creativity

- To express their creativity in a range of digital settings and applications
- To consider target audience when presenting work
- How to work towards a set of client requirements
- The importance of working independently as well as when collaborating with team

Digital Citizenship

- To be responsible when using social networks, technology and other online tools
- To understand the possible dangers they can face online
- How to deal with situations they may encounter online
- To understand the impact ICT has on their lives and the world around them
- How to recognise ethical issues surrounding the use of information technology
- The existence of legal frameworks governing the use of technology
- Why their personal data is important and understand their rights and responsibilities in relation to data privacy and consent

		Term 1		Term 2		Term 3	
No. of Weeks		8	7	6	6	5	7
Year 7	Topic Title and NC link	Introduction to TEMA Systems – Working Electronically <i>Strands – Digital Literacy & Digital Citizenship</i>		The Internet <i>Strand – Digital Literacy</i>	Introduction to Spreadsheet software <i>Strand - Digital Literacy</i>	Game Design with Scratch <i>Strand - Computer Science</i>	
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	Students will be taught: <ul style="list-style-type: none"> How to work safely. The dangers of working online. How to present work for a given target audience. How to deal with situations they may encounter online. The basic components that make up a computer system. 		Students will be taught: <ul style="list-style-type: none"> The difference between the world wide web and the internet Know how different people use the internet. Know how to search the internet effectively. What hardware used to connect to the internet. The importance of using the internet safely. How to connect to the internet using different devices. 	Students will be taught: <ul style="list-style-type: none"> How spreadsheets can be used to record and analyse information. Be able to identify the key information. How to perform a range of calculations and use formula to analyse data. How spreadsheets can be used in the real world to model a range of scenarios. 	Students will be taught: <ul style="list-style-type: none"> How algorithms are used in computer programs. How a computer processes information. How to create a product for a specific audience. How algorithms are used in computer programs, including: <ul style="list-style-type: none"> Sequencing Selection Iteration 	
	<i>Pupils should be able to do... (Skills being developed)</i>	<ul style="list-style-type: none"> How to access their work and keep it secure. Organise their work both on the school network and on the cloud. Communicate successfully with teachers and each other How to use a range of email tools. 		<ul style="list-style-type: none"> Draw a network with correct devices labelled. Analyse how current networks work in relation to network speed. Be able to use search criteria and search engines officially. 	<ul style="list-style-type: none"> Use a range of formatting tools to highlight key information and make the spreadsheet easy to read. Perform accurate calculations How to insert graphs to analyse data. 	<ul style="list-style-type: none"> Create a program using a sequencing, selection and iteration. Create sprites and backgrounds from a range of sources. Get sprites to communicate using event driven programming. 	
<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	This unit will ensure all students are able to the work efficiently on digital devices at TEMA, enabling students to access work both inside and outside of the classroom. Students will be made aware of the dangers of working online and how to deal with a range of situations that may occur. Students will also learn how to manage their digital work and use email effectively as a professional method of communication. This unit will build on the students’ knowledge of ICT delivered at KS2.		In this unit students will understand how data travels across a network. This will give students a firm understanding of how digital communication works. Having this knowledge will give students a greater understanding of how the internet work, the hardware needed and concepts underlying the technology. Also, students will develop an understanding of the internet in real life context.	Student will be introduced to the spreadsheet software – a highly desirable skill for employers especially in the local area. Students will look at how and why spreadsheets are used in business and how to analyse data.	This unit will provide the students with an introduction to game design. As well as learning how to use the software, students will be expected to create a basic game which is suitable for a specific audience and solve problems as they code their game. In half term 6 this unit will build upon the knowledge and experience in half term 5 and allow the students to further develop their knowledge and skills when creating and designing a game for a specific audience and solve problems. This unit will build on the students’ knowledge of ICT delivered at KS2.		

		8	7	6	6	5	7
Year 8	Topic Title and NC link	My Digital World <i>Strands – Digital Citizenship & Digital Literacy</i>	Computer Systems <i>Strand - Computer Science Digital Creativity Digital Literacy</i>	Working with Spreadsheets <i>Strand - Digital Literacy</i>	Programming with Python <i>Strand - Computer Science</i>	How Businesses Use Computers to Work Effectively <i>Strand - Digital Literacy</i>	Creating Digital Images <i>Strands - Digital Creativity & Digital Citizenship</i>
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	Pupils should know: <ul style="list-style-type: none"> What online grooming is What the copyright law is What website validity is 	Pupils should know: <ul style="list-style-type: none"> What hardware components make up a computer system What the CPU is How data is processed 	Pupils should know: <ul style="list-style-type: none"> How to create charts How a COUNTIF function works How to ‘sort’ data How to use suitable formulas to work out different sums 	Pupils should know: <ul style="list-style-type: none"> How programming is used in the real world How to create a basic algorithm How basic functions are used within Python 	Pupils should know: <ul style="list-style-type: none"> How businesses use Microsoft Word in their everyday tasks How businesses use Microsoft Excel in their everyday tasks How businesses use Microsoft PowerPoint in their everyday tasks 	Pupils should know: <ul style="list-style-type: none"> Understand why image manipulation is use and what the effects are How image manipulation is used in the real world and reasons why How to use GIMP software to create a collage

	<i>Pupils should be able to do... (Skills being developed)</i>	Pupils should be able to: <ul style="list-style-type: none"> Explain what online grooming is and what someone should do if they are being groomed Explain what the copyright law is and the possible consequences if the law is broken Identify the features of a trustworthy website 	Pupils should be able to: <ul style="list-style-type: none"> Explain how the different parts that make up a computer system Explain how computer processes data in the computer system Explain how data is stored in the computer system 	Pupils should be able to: <ul style="list-style-type: none"> Create a basic column chart from two non-adjacent columns of data Write a COUNTIF function to count the number of times a term appears in a range of cells Work with multiple tables of data in a spreadsheet Sort data in a number of different columns in a table Create a spreadsheet, write suitable formulas, sort data and create a suitable chart 	Pupils should be able to: <ul style="list-style-type: none"> Explain different ways how Python can be used in the real world Use basic functions such as input and print. Write out a program that will use a turtle to draw out shapes 	Pupils should be able to: <ul style="list-style-type: none"> Create a business letter within Microsoft Word in a business context Create a spreadsheet using spreadsheet skills such as formula using Microsoft Excel in a business context Create a suitable presentation using Microsoft PowerPoint in a business context 	Pupils should be able to: <ul style="list-style-type: none"> Explain reasons why people use image manipulation (social media) and how this affects others. Explain examples of how image manipulation is used in the real world and reasons why Use GIMP tools (such as fuzzy select, scale tool) to create a collage
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	E-safety is an important topic to revisit each year. This topic will build on your e-safety knowledge that you have previously learnt from primary school as well as the year 7 'Introduction to TEMA Systems – Working Electronically' topic	Now that students are more confident in using the software on the computer, they will learn about the different components of a computer as well as how data is processed so they gain extra understanding of what is happening when they are using the computer. This knowledge can be then be built on if they decide to take the KS4 Computer Science option.	This topic revisits and builds on skills previously learnt in the year 7 topic 'Introduction to Spreadsheet software'. They will look closely at creating charts and using more complex functions. This knowledge can be used in future if they decide to take the KS4 BTEC Digital Technology option where they will use spreadsheets.	This topic revisits and builds on some of the knowledge gained from the year 7 'Game Design with Scratch' topic with the understanding of algorithms and giving sets of instructions in a program. This knowledge can be then be built on if they decide to take the KS4 Computer Science option where they will use Python.	Students will be applying their Microsoft Word, Excel and PowerPoint skills in a business context and gain a greater understanding of how they are used in the real world. Students will also see how artefacts can be used across multiple software to create a final product. This knowledge can be then be built on if they decide to choose Business or the BTEC Digital Information Technology as further fields of study.	Students will learn digital image editing skills and gain an understanding in how this used by media companies and the impact this can have on social media and the wider community.

	No. of Weeks	8	7	6	6	5	7
	Topic Title and NC link	Programming with Python <i>Strand - Computer Science</i>	User Interface (UI) and User Experience (UX) Design <i>Strand – Digital Literacy</i>	The Impact of ICT on society <i>Strands - Computer Science & Digital Citizenship</i>	Criminal Computing <i>Strand – Computer Science & Digital Citizenship</i>	Cryptography with Alan Turing <i>Strands - Computer Science & Digital Citizenship</i>	The Impact of Digital Images <i>Strands - Digital Creativity & Digital Citizenship</i>
Year 9	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	Students will be taught: <ul style="list-style-type: none"> How to create a program using a text-based programming language. How abstraction and decomposition can be used when creating a solution for a given problem. Subroutines. 	Students will be taught: <ul style="list-style-type: none"> Why UI and UX is important in a digital world. How to create an intuitive interface to present information to a specific audience. 	Students will examine: <ul style="list-style-type: none"> Topical issues associated with computers and technology. Students will examine the following areas: <ul style="list-style-type: none"> How third party's might use our data Age of consent Privacy Students will understand why consent is sought by third parties and how personal data could be used for social engineering. 	Students will be taught: <ul style="list-style-type: none"> The advantages and disadvantages of social media for a person, business or organisation. The impact of virus' and malware and how to avoid them. About fishing and vishing Ethical issues The following laws: <ul style="list-style-type: none"> The Computer Misuse Act Copyright, Designs and Patents Act Data Protection Act 	Students will be taught: <ul style="list-style-type: none"> About the achievements of Alan Turing during WWII and his work on the development of the first computer system at Manchester university. The circumstances surrounding Alan Turing's untimely death. About a range of encryption techniques and why they are important in modern computing. 	Students will be taught: <ul style="list-style-type: none"> How images can be used to compliment information. How images can be used in fake news. The difference between bitmap and vector images.
	<i>Pupils should be able to do... (Skills being developed)</i>	<ul style="list-style-type: none"> How to create a program using a text-based programming language. Use a range of programming techniques, such as: <ul style="list-style-type: none"> Sequencing Selection 	<ul style="list-style-type: none"> Advanced presentation skills: <ul style="list-style-type: none"> Timing animations Hyperlinks Inserting media 	<ul style="list-style-type: none"> Identify strategies to take a digital detox, if required. Understand the value of personal data to private companies. 	<ul style="list-style-type: none"> Take precautions to keep a computer system safe from Virus' and malware. Identify how British laws apply to crimes committed on digital devices. 	<ul style="list-style-type: none"> Encrypt and decrypt messages use Caesar and pigpen ciphers. Explain why encryption is important in modern computing. 	<ul style="list-style-type: none"> Create a bitmap image for a purpose Use a range of software tools to refine and edit new and existing images.

		○ Iteration		• Understand the age of consent when using social media platforms.			• Save their work in an appropriate format given a range of scenarios.
<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	Students will further develop their programming skills using the Python programming language. This will build on the knowledge from the game design units in year 7 and the python unit in year 8.	In this unit students will study intuitive design and apply their knowledge to a digital product. UI and UX is a relatively new field and there are a range of opportunities for students for students to further explore this field in KS4 and post 16 education.	In this unit students will learn how business and organisations use our data and why it is important to keep our data safe.	Students need to be aware of how to behave online. This topic will explore how individuals, businesses and organisations use social media to grow while also looking at the dangers and laws that protect users while online.	In this unit students will examine the timeline of the advent of the computer starting with Alan Turing and the successes of his professional life and in contrast his private life. After learning more about his life students are then introduced to the field of cryptography where they are able to follow in Alan's footsteps and explore how and why cryptography is still important today.	Students will explore the impact of images on society looking at the impact of social media and fake news. Students will also discuss how images are stored (Computer Science) and develop skills in photoshop to create their own digital image. The skills taught in this unit are relevant to both the Computer Science and Digital Information Technology course.	

Computer Science GCSE

	No. of Weeks	8	7	6	6	5	7
Year 10	Topic Title and NC link	Network Security	System Architecture	Memory & Storage	Networks, Protocols & Layers	Networks, Protocols & Layers Utility Software	Legal & Ethical Issues
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	<ul style="list-style-type: none"> How computers and networks can be targeted by hackers A range of measures to prevent these attacks. 	<ul style="list-style-type: none"> What the Von Neuman Architecture is and how this works. Know function of the CPU. Know the function of the registers. How the Fetch-Decode-Execute cycle works when running a program. Know how code is used the Fetch-Decode-Execute cycle. Know the characteristics of embedded computer systems. 	<ul style="list-style-type: none"> The 3 types of storage in computing. The characteristics of each type of memory storage in terms of sider use. What virtual memory is and how this affects speed. What RAM is and how different amounts of RAM affect the performance of a computer. What ROM is and the role it plays in part of the computer system. The differences between RAM and ROM. 	<ul style="list-style-type: none"> The computer as ASCII and UNICODE How images are represented in terms of pixels and bits How sound files are made up through sampling What the different types of compression are Convert hex to denary and binary Work out file sizes of images and sound files based on their attributes. 	<ul style="list-style-type: none"> The factors that affect the performance of networks The roles of a peer to peer and client server network What a DNS server is What a hosting server is How cloud computing works What a virtual network is and why it is used Know what the different protocols are in networking and why they are used. What packet switching is What packet sniffing is What an operating system is What the 5 subsystems within an operating system are Know the range of utility software and the function of each of these. 	Know the wider issues in computing. This includes: <ul style="list-style-type: none"> Ethics Legal issues Cultural Issues Environment issues Privacy issues <ul style="list-style-type: none"> Stakeholders in technology. Computer legislation. Computer laws.
	<i>Pupils should be able to do... (Skills being developed)</i>	Evaluating computers and networks in terms of safety and creative preventative measures for this.	Evaluate current embedded systems and say why they are embedded. Recall previous knowledge to explain the functions of internal computing components. Explain in depth how the Fetch-Decode-Execute cycle works.	Decide of the most effective memory device for the given scenario. Use analysis skills to explain best possible solutions to increase speed of a computer. Explain the differences of RAM and ROM.	Convert denary to binary. Convert binary to denary. Convert hexadecimal to binary and denary. Calculate files sizes of images based on their attributes. Calculate file sizes of sounds based on their attributes.	Use knowledge to design and plan out a network using the correct protocols. Describe the functions of an operating system.	Analysing current laws and matching them to a range of scenarios. Explain what a stakeholder is.

	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	This unit will build upon their knowledge of security covered at KS3. students will be able to become more secure in their own knowledge of security systems particularly while using network devices within school and in their personal life.	Students will understand how the core of the computer system works. This knowledge will support students in the following Computer Science units as they build upon this unit.	Students will recall knowledge from system architecture to link this with the speed that computers run. Students will be able to understand why they devices are running faster/slower and be able to optimise their devices for best use. This will also be linked into further units of study.	Students will have the knowledge to support them in their everyday use of technology. This includes mobile and fixed devices. They will also be able to appreciate files and their sizes in relation to storage. Learning in this unit will continue from KS3 Fundamentals of Computing.	Students will expand on learning from the KS3 Networking unit. The learning in this unit focus on the technical details of networks, their structures and how data is sent. From this unit students will be able to use their own devices more accurately in terms of accessing online materials and setting up networks for personal us	This unit combines all units together with a focus on legal issues. The key points learnt will allow students to think of their own wider use of technology and be able to recognise ethical issues which will result in them becoming better digital citizens.
--	---	---	--	--	--	--	---

	No. of Weeks	8	7	6	6	5	7
	Topic Title and NC link	Algorithms	Programming Techniques	Producing Robust Programs	Computational Logic	Exam	
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	<ul style="list-style-type: none"> The concepts of abstraction, decomposition and computational thinking. What the search algorithms are and how they are used (linear and binary). The difference between the sorting algorithms (bubble sort and merge sort). 	<ul style="list-style-type: none"> How to structure a program How to run a program How debug errors How to save a program The features of an IDE How an IDE works The characteristics of programming languages The difference between a compiler and a translator 	<ul style="list-style-type: none"> What defensive design considerations are Computational logic in coding How to layout code in more than one language 	<ul style="list-style-type: none"> Why computers understand binary in relation to hardware. Logic gates in circuitry relate to binary to allow the computer to function 		
Year 11	<i>Pupils should be able to do... (Skills being developed)</i>	<p>Use abstraction and decomposition to create a working algorithm.</p> <p>Use searching algorithms to search for data in a file.</p> <p>Use sorting algorithms to sort data in a file Write pseudocode to run searches and sorts.</p>	<p>Can use a variety of programming techniques including:</p> <ul style="list-style-type: none"> File operations Use of strings and arrays Data types Use of SQL Arithmetic and Boolean operators Use an IDE to write a program Debug a program using IDE support 	<p>Write code for maintainability.</p> <p>Write conditions in code.</p> <p>Test and keep testing data for accuracy.</p> <p>Identify and fix syntax and logic errors.</p>	<p>Calculate the truth table from the logic gate problem.</p> <p>Use the AND, OR and NOT gates.</p> <p>Use logic operators.</p> <p>Apply mathematical logic to problems.</p>		
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	Learning will be built upon from KS3 computational thinking, fundamentals of computing and all coding units. Learning in this unit will support coding and computation thinking skills. Pupils will have a greater understanding of how code is developed and is used to search for data.	Learning will be built upon from KS3 Computational thinking, fundamentals of computing and all coding units. Pupils will have the opportunity to use an IDE which will support learning of how to develop their coding skills. The use of an IDE will also give pupils the opportunity to think about user experience in relation to creating a program. This will follow on from learning in KS3.	Pupils will have had the opportunity to use an IDE to support code development. Pupils will use this to enhance their coding further and be able to look at errors and how to fix them. This will support them in further study that requires coding.	Learning will be built upon KS3 computational thinking. Pupils will have a foundation of logic gates and their uses. This will be taught further to introduce the electrical aspects of logic gates to make sure a computer works. Pupils will know how electricity converts to screen movement using binary in a computer system.		

Business Studies GCSE

		Term 1		Term 2		Term 3	
No. of Weeks		7	7	6	6	5	7
Topic Title and NC link		1.1 Enterprise and entrepreneurship	1.2 Spotting a business opportunity	1.3 Putting a business idea into practice	1.4 making the business effective	1.5 understanding external influences on business	Consolidation of 1.1 – 1.5 Exam prep Paper 1 exams
Year 10	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	<p>1.1.1 The dynamic nature of business</p> <ul style="list-style-type: none"> changes in technology changes in what consumers want products and services becoming obsolete. How new business ideas come about: original ideas adapting existing products/services/ideas <p>1.1.2 Risk and reward</p> <ul style="list-style-type: none"> risk: business failure, financial loss, lack of security reward: business success, profit, independence. <p>1.1.3 The role of business enterprise</p> <ul style="list-style-type: none"> to produce goods or services to meet customer need to add value: convenience, branding, quality, design, unique selling points. an entrepreneur: organises resources, makes business decisions, takes risks. 	<p>1.2.1 Customer needs</p> <ul style="list-style-type: none"> what customer needs are: price, quality, choice, convenience the importance of identifying and understanding customers: generating sales, business survival. <p>1.2.2 Market research</p> <ul style="list-style-type: none"> to identify and understand customer needs to identify gaps in the market to reduce risk to inform business decisions. Methods of market research: primary research: survey, questionnaire, focus group, observation secondary research: internet, market reports, government reports. The use of data in market research: qualitative and quantitative data the role of social media in collecting market research data the importance of the reliability of market research data. <p>1.2.3 Market segmentation</p> <ul style="list-style-type: none"> identifying market segments: location, demographics, lifestyle, income, age market mapping to identify a gap in the market and the competition <p>1.2.4 The competitive environment</p> <ul style="list-style-type: none"> strengths and weaknesses of competitors based on: 	<p>1.3.1 Business aims and objectives</p> <ul style="list-style-type: none"> financial aims and objectives: survival, profit, sales, market share, financial security <p>1.3.2 Business revenues, costs and profits</p> <ul style="list-style-type: none"> revenue fixed and variable costs total costs profit and loss interest break even level of output margin of safety. Interpretation of break even diagrams: the impact of changes in revenue and costs break even level of output <p>1.3.3 Cash and cash-flow</p> <ul style="list-style-type: none"> to pay suppliers, overheads and employees to prevent business failure (insolvency) the difference between cash and profit. <p>1.3.4 Sources of business finance</p> <ul style="list-style-type: none"> short-term sources: overdraft and trade credit long-term sources: personal savings, venture capital, share capital, loans, retained profit and crowd funding. 	<p>1.4.1 The options for start-up and small businesses</p> <ul style="list-style-type: none"> limited and unlimited liability the implications for the business owner(s) of limited and unlimited liability. sole trader, partnership, private limited company the advantages and disadvantages of each type of business ownership the advantages and disadvantages of franchising. <p>1.4.2 Business location Factors</p> <ul style="list-style-type: none"> proximity to: market, labour, materials and competitors nature of the business activity the impact of the internet on location decisions: e-commerce and/or fixed premises. <p>1.4.3 The marketing mix</p> <ul style="list-style-type: none"> price, product, promotion, place. How the elements of the marketing mix work together: balancing the marketing mix based on the competitive environment the impact of changing consumer needs on the marketing mix the impact of technology on the marketing mix: ecommerce, digital communication. <p>1.4.4 Business plans</p>	<p>1.5.1 Business stakeholders</p> <ul style="list-style-type: none"> shareholders (owners), employees, customers, managers, suppliers, local community, pressure groups, the government. Stakeholders and businesses: how stakeholders are affected by business activity how stakeholders impact business activity possible conflicts between stakeholder groups <p>1.5.2 Technology and business</p> <ul style="list-style-type: none"> e-commerce social media digital communication payment systems. How technology influences business activity in terms of: sales costs marketing mix <p>1.5.3 Legislation and business</p> <ul style="list-style-type: none"> principles of employment law: recruitment, pay, discrimination and health and safety. The impact of legislation on businesses: cost consequences of meeting and not meeting these obligations. <p>1.5.4 The economy and business</p> <ul style="list-style-type: none"> unemployment, changing levels of consumer income, inflation, changes in interest rates, government taxation, changes in exchange rates. <p>1.5.5 External influences</p>	

			price, quality, location, product range and customer service <ul style="list-style-type: none"> the impact of competition on business decision making 		<ul style="list-style-type: none"> to identify: the business idea; business aims and objectives; target market (market research); forecast revenue, cost and profit; cash-flow forecast; sources of finance; location; marketing mix. the role and importance of a business plan in minimising risk and obtaining finance. 	<ul style="list-style-type: none"> possible responses by the business to changes in: technology, legislation, the economic climate. 	
<i>Pupils should be able to do... (Skills being developed)</i>	Students should be able to identify and analyse the impact of external influences on a business and evaluate the level of risk and reward for a business	Students should be able to identify which form of market research would be the best fit for the business and the purpose of the information needed. They should also be able to segment the market for different business types and be able to identify and analyse the impact of the competitive environment on the market and the business.	Students should be able to complete the financial calculations for a business but also interpret and analyse the data whilst offering solutions or possible future strategies for improvement	Students should be able to identify the reasons for particular locations and the advantages and disadvantages associates with locations. The global element of business should also be understood.	Students should be able to identify, understand and prioritise the internal and external factors affecting the operations of a business.	Students should consolidate their knowledge and apply it to business contexts in an exam scenario	
<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	This topic introduces to the student of the business idea and concept of an organisation operating within a market. Linked to KS3 Computing unit on enterprise and entrepreneurship.	This topic build on the previous knowledge of the business and look at the market in which it operates.	This topic allows the students to understand the financial aspects of business activity and the importance of finance and profit. It will also allow students to build on the topics to come by being able to relate other external influences and change to how this will affect the finance of a business	This topic allows the students to place the right business in the right place with the right product at the right time and the implications of not doing so.	This topic allows students to look at the environment in which the business operates and not just the business activities in isolation	Students will have the chance to hone their examination technique	

		Term 1		Term 2		Term 3	
	Topic title	2.1 Growing the business	2.2 Making marketing decisions	2.3 Making operational decisions	2.4 Making financial decisions	2.5 making human Resource decisions	Revision Exam Prep PPE
Year 11	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	2.1.1 Business growth <ul style="list-style-type: none"> internal (organic) growth: new products (innovation, research and development), new markets (through changing the marketing mix or taking advantage of technology and/or expanding overseas) external (inorganic) growth: merger, takeover. public limited company (plc) Sources of finance for growing and established businesses: 	2.2.1 Product <ul style="list-style-type: none"> function, aesthetics, cost. The product life cycle: the phases of the product life cycle extension strategies. The importance to a business of differentiating a product/ service 2.2.2 Price <ul style="list-style-type: none"> pricing strategies influences on pricing strategies: technology, competition, market segments, product life cycle. 	2.3.1 Business operations <ul style="list-style-type: none"> to produce goods to provide services. different types: job, batch, flow the impact of different types of production process: keeping productivity up and costs down and allowing for competitive prices. balancing cost, productivity, quality and flexibility. 2.3.2 Working with suppliers <ul style="list-style-type: none"> interpretation of bar gate stock graphs the use of just in time (JIT) stock control 	2.4.1 Business calculations <ul style="list-style-type: none"> gross profit net profit Calculation and interpretation of: gross profit margin net profit margin average rate of return. 2.4.2 Understanding business performance <ul style="list-style-type: none"> information from graphs and charts financial data marketing data market data. understanding business performance 	2.5.1 Organisational structures <ul style="list-style-type: none"> hierarchical and flat centralised and decentralised. 1.5.2 Technology and business <ul style="list-style-type: none"> social media digital communication payment systems. sales costs marketing mix. 2.5.2 Effective recruitment <ul style="list-style-type: none"> key job roles and their responsibilities: directors, senior managers, supervisors/team 	

	<ul style="list-style-type: none"> internal sources: retained profit, selling assets external sources: loan capital, share capital, including stock market flotation (public limited companies). <p>2.1.2 Changes in business aims and objectives</p> <ul style="list-style-type: none"> in response to: market conditions, technology, performance, legislation, internal reasons. How business aims and objectives change as businesses evolve: focus on survival or growth entering or exiting markets growing or reducing the workforce increasing or decreasing product range. <p>2.1.3 Business and globalisation</p> <ul style="list-style-type: none"> imports: competition from overseas, buying from overseas exports: selling to overseas markets changing business locations multinationals. Barriers to international trade: tariffs trade blocs. How businesses compete internationally: the use of the internet and e-commerce changing the marketing mix to compete internationally. <p>2.1.4 Ethics, the environment and business</p> <ul style="list-style-type: none"> how ethical considerations influence business activity: possible trade. 	<p>2.2.3 Promotion</p> <ul style="list-style-type: none"> appropriate promotion strategies for different market segments: advertising, sponsorship, product trials, special offers, branding the use of technology in promotion: targeted advertising online, viral advertising via social media, e-newsletters. <p>2.2.4 Place</p> <ul style="list-style-type: none"> methods of distribution: retailers and etailers (ecommerce). <p>2.2.5 Using the marketing mix to make business decisions</p> <ul style="list-style-type: none"> Using the marketing mix to build competitive advantage. How an integrated marketing mix can influence competitive advantage. 	<ul style="list-style-type: none"> relationships with suppliers: quality, delivery (cost, speed, reliability), availability, cost, trust the impact of logistics and supply decisions on: costs, reputation, customer satisfaction. <p>2.3.3 Managing quality</p> <ul style="list-style-type: none"> the production of goods and the provision of services: quality control and quality assurance allowing a business to control costs and gain a competitive advantage. <p>2.3.4 The sales process</p> <ul style="list-style-type: none"> product knowledge, speed and efficiency of service, customer engagement, responses to customer feedback, post-sales service. <p>The importance to businesses of providing good customer service</p>	<ul style="list-style-type: none"> making business decisions. 	<p>leaders, operational and support staff.</p> <p>2.5.3 Effective training and development</p> <ul style="list-style-type: none"> different ways of training and developing employees: formal and informal training, self-learning, ongoing training for all employees, use of target setting and performance reviews. Why businesses train and develop employees: the link between training, motivation and retention retraining to use new technology. <p>2.5.4 Motivation</p> <ul style="list-style-type: none"> attracting employees, retaining employees, productivity. How businesses motivate employees: financial methods: remuneration, bonus, commission, promotion, fringe benefits non-financial methods: job rotation, job enrichment, autonomy 	
Pupils should be able to do... (Skills being developed)	Students should be able to identify, understand and analyse the impact of globalisation on a business and business activity. They should also be able to understand the importance of ethics and reputation in the business world.	Students should be able to specifically recommend and discuss evaluating possible alternative options of all elements of the marketing mix. This build on the basic knowledge given in Unit 1.	Student should be able to understand the different production processes and analyse the advantages and drawbacks of methods. Students should be able to offer strategies or changes to processes in order to become more efficient.	Students should be able to do the calculations and formulas required to show business performance. They should also be able to analyse the results of that information and offer strategies or alternatives in order for the business to be more competitive or profitable.	Students should understand the importance of organisational structures and the value of staff in terms of the success of the business.	Students should consolidate their knowledge and apply it to business contexts in an exam scenario.

<i>Why are we doing this now? How does this build on prior knowledge and the knowledge still to come?</i>	Unit 1 look at the business and its immediate internal and external environment, this unit build on that knowledge and extends it to incorporate the global environment that all businesses today face.	Marketing mix was introduced in basic terms in Unit 1 but is built on here so that students can see the marketing mix in global terms and how all elements of the mix impact on each other	This topic build on the previous two topics as once an environment has been established and a mix in place, a business must then produce their good / service in the most efficient / profitable way.	This topic build on the previous topics as most business decisions will come down to finance and efficiency.	This topic stands alone but allows the student to look at the running of the business in terms of staff and structures.	Students will have the chance to hone their examination technique.
---	---	--	---	--	---	--

BTEC Enterprise

		Term 1		Term 2		Term 3	
No. of Weeks		7	7	6	6	5	7
Year 10	Topic Title and NC link	Component 1 Exploring Enterprises		Component 1 Exploring Enterprises		Component 1 Exploring Enterprises	Component 3 – Promotion and Enterprise
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	Learning aim A: A1 What is an enterprise? A2 Types and characteristics of SMEs A3 The purpose of enterprises A4 Entrepreneurs		Learning aim B: B1 Customer needs B2 Using market research to understand customers B3 Understanding competitors		Learning aim C: C1 Internal factors C2 External factors C3 Situational analysis C4 Measuring the success of an SME	Learning aim A: A1 Elements of the promotional mix and their purposes A2 Targeting and segmenting
	<i>Pupils should be able to do... (Skills being developed)</i>	Learners will investigate two real contrasting SMEs, e.g. a service provider or supplier of goods locally and a larger SME. Learners will consider the characteristics of the SMEs and their owners, and the importance of these characteristics in achieving success.		Students should be able to complete the financial calculations for a business but also interpret and analyse the data whilst offering solutions or possible future strategies for improvement	Students should be able to identify the reasons for particular locations and the advantages and disadvantages associates with locations. The global element of business should also be understood.	Learners will investigate why enterprises are successful, looking at the impact of factors both inside and outside the control of the enterprise, and how they affect the success of two SMEs; They will then use situational analysis : SWOT and PEST to apply their investigation of internal and external factors. Learners will analyse the factors that measure success applied to their chosen SME	Component 3 – Promotion and Enterprise Learners will explore the different methods of promotion used by enterprises, their suitability for different sizes of enterprise, including the factors they consider when choosing the most appropriate
	<i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i>	Learners will develop transferable skills, such as research and data analysis, which will support progression to Level 2 or 3 vocational or academic qualifications. Builds upon the knowledge gained during the year 9 Computing programme of study entitled ‘Entrepreneurship & ICT’.		The knowledge and skills gained will enable learners to utilise their learning in the second internal component and the external component.		This topic allows students to look at the environment in which the business operates and not just the business activities in isolation	Component 3 builds directly on Components 1 and 2, and enables learning to be brought together and applied to realistic contexts.

		Term 1		Term 2		Term 3	
Topic title		Component 2 Planning for and Pitching an Enterprise Activity	Component 3 – Promotion and Enterprise	Component 3 – Promotion and Enterprise	Component 3 – Promotion and Enterprise	Revision Exam Prep PPE	
Year 11	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	Learning aim B & C B1 Pitching a micro-enterprise activity B2 Presenting a business pitch C1 Using feedback and review to identify possible changes to the pitch	Learning aim A: A1 Elements of the promotional mix and their purposes A2 Targeting and segmenting the market A3 Factors influencing the choice of promotional methods	Learning aim B: B1 Financial documents B2 Payment methods B3 Sources of revenue and costs B4 Terminology in financial statements B5 Statement of comprehensive income	Learning aim C: C1 Using cash flow data C2 Financial forecasting C3 Suggesting improvements to cash flow problems C4 Break-even analysis and break-even point C5 Sources of business finance Learners will complete cash flow forecasts, and investigate the effects of positive and negative cash flow on an enterprise		

			B6 Statement of financial position B7 Profitability and liquidity		
Pupils should be able to do... (Skills being developed)	Learners will carry out an individual pitch of their final plan to an audience. The audience could include teachers and peers importance of ethics and reputation in the business world. Learners will individually reflect and evaluate whether their plan and pitch were successful and suggest improvements	Students should be able to specifically recommend and discuss evaluating possible alternative options of all elements of the marketing mix. This build on the basic knowledge given in Unit 1.	Learners will complete, interpret and check the information on financial documents and statements.	Learners will complete, interpret and check the information on financial documents and statements.	Students should consolidate their knowledge and apply it to business contexts in an exam scenario.
<i>Why are we doing this now? How does this build on prior knowledge and the knowledge still to come?</i>	Learners will use the research knowledge gained from Component 1 to consider a number of ideas before developing a plan for a realistic micro-enterprise activity. Developing planning and research, presentation, communication and self reflection skills to help to progress to Level 2 or Level 3 vocational and academic qualifications.	Component 3 builds directly on Components 1 and 2, and enables learning to be brought together and applied to realistic contexts. Developing planning and research, presentation, communication and self-reflection skills to help to progress to Level 2 or Level 3 vocational and academic qualifications.			Students will have the chance to hone their examination technique.

BTEC Digital Information Technology

		Term 1		Term 2		Term 3	
No. of Weeks		7	7	6	6	5	7
Year 10	Topic Title and NC link	Component 2 Collecting, Presenting and Interpreting Data Component 3 Modern Technologies	Component 2 Collecting, Presenting and Interpreting Data Component 3 Modern Technologies	Component 2 Collecting, Presenting and Interpreting Data Component 3 Modern Technologies	Component 1 Exploring User Interface Design Principles and Project Planning Component 3 Cyber security	Component 1 Exploring User Interface Design Principles and Project Planning Component 3 Cyber security	Component 1 Exploring User Interface Design Principles and Project Planning Component 3 Cyber security
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	Learning Aim A: A1 Characteristics of data and information A2 Representing information A3 Ensuring data is suitable for processing A4 Data collection A5 Quality of information and its impact on decision making A6 Sectors that use data modelling A7 Threats to individuals A1 Modern technologies	Learning Aim B: B1 Data processing methods B2 Produce a dashboard A2 Impact of modern technologies	Learning Aim C: C1 Drawing conclusions based on the data C2 How presentation affects understanding A2 Impact of modern technologies	Learning Aim A: A1 What is a user interface? A2 Audience needs A3 Design principles A4 Designing an efficient user interface B1 Threats to data	Learning Aim B: B1 Project planning techniques B2 Create a project plan B3 Create an initial design B2 Prevention and management of threats to data	Learning Aim C: C1 Developing a user interface C2 Refining the user interface C3 Review B3 Policy

	<p><i>Pupils should be able to do... (Skills being developed)</i></p>	<p>Learners will understand the concepts of data and that data is meaningless without converting it into information by adding structure and context.</p> <p>Learners will understand the different ways of representing information and will be able to explain situations where they would be used.</p> <p>Learners will understand the methods that can be used to ensure data input is suitable and within boundaries so that it is ready to be processed.</p> <p>Learners will understand how the data collection method and data collection features affect its reliability.</p> <p>Learners will understand the factors that affect the quality of information and their impact on decision making.</p> <p>Learners will understand that different types of organisation use data modelling to help make decisions.</p> <p>Learners will understand the different threats that face individuals who have data stored about them.</p>	<p>Learners will understand how data can be imported from an external source. They will then explore how to apply data processing methods.</p> <p>Learners will use a dashboard to select and display information summaries based on a given large data set.</p> <p>.</p>	<p>Learners will draw conclusions on the data set, using their dashboard in order to make recommendations.</p> <p>Learners will assess how well they have used the presentation features listed in B2.</p>	<p>Learners will investigate different types of user interfaces used by individuals and organisations.</p> <p>They will investigate how they vary across different uses, devices and purposes.</p> <p>Learners will investigate the varying needs of the audience and how they affect both the type and the design of the interface.</p> <p>Learners will investigate a wide variety of design principles that provides both appropriate and effective user interaction with hardware devices.</p> <p>Learners will investigate techniques that can be used to improve both the speed and access to user interfaces.</p>	<p>Learners will investigate different planning tools and design methodologies that can be used to plan, monitor and execute projects.</p> <p>Learners will select suitable project planning techniques to develop a project plan for the development of a user interface for a given brief.</p> <p>Learners will create an initial design using the design principles listed in section A3.</p>	<p>Learners will use their design to produce a user interface.</p> <p>Learners will refine their user interface using an iterative process with potential users.</p> <p>Learners will review the success of the user interface and the use of their chosen project planning techniques.</p>
		<p>Understand how and why modern technologies are used by organisations and stakeholders to access and manipulate data, and to provide access to systems and tools in order to complete tasks.</p> <p>Learners should understand the implications of these tools and technologies for organisations and stakeholders.</p>	<p>Learners should understand how modern technologies impact on the way organisations perform tasks. Learners should understand how technologies are used to manage teams, to enable stakeholders to access tools and services, and to communicate effectively. Learners should understand the positive and negative impact that the use of modern technologies has on organisations and stakeholders.</p>	<p>Learners should understand why systems are attacked, the nature of attacks and how they occur, and the potential impact of breaches in security on the organisation and stakeholders.</p>	<p>Learners should understand how different measures can be implemented to protect digital systems.</p> <p>They should understand the purpose of different systems and how their features and functionality protect digital systems. Learners should understand how one or more systems or procedures can be used to reduce the nature and/or impact of threats.</p>	<p>Learners should understand the need for and nature of security policies in organisations. They should understand the content that constitutes a good security policy and how it is communicated to individuals in an organisation. To ensure that potential threats and the impact of security breaches are minimised, learners should understand how procedures in security policies are implemented in organisations.</p>	

	<p><i>Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?</i></p>	<p>Learners will develop transferable skills, such as research, design and project planning skills, which will support progression to Level 2 or 3 vocational or academic qualifications.</p> <p>The knowledge and skills gained will enable learners to utilise their learning in the external component.</p>	<p>Learners will develop their spreadsheet skills further which they have previously learnt from the year 7 and 8 spreadsheet units. They will also use their review skills learnt from the previous component (component 2).</p> <p>The knowledge and skills gained will enable learners to utilise their learning in the external component.</p>
--	--	--	--

		Term 1		Term 2		Term 3	
No. of Weeks		7		6		5	
Year 11	Topic Title and NC link	Component 3 The wider implications of digital systems	Component 3 The wider implications of digital systems		Component 3 Planning and communication in digital systems	Revision Exam Prep PPE	
	<i>Pupils should know... (Core knowledge and concepts to be learned)</i>	C1 Responsible use	C2 Legal and ethical		D1 Forms of notation		
	<i>Pupils should be able to do... (Skills being developed)</i>	Learners should consider the responsible use of digital systems, including how systems and services share and exchange data as well as the environmental considerations of increased use.	Learners should understand the scope and purpose of legislation (valid at time of delivery) that governs the use of digital systems and data, and how it has an impact on the ways in which organisations use and implement digital systems. Learners should understand the wider ethical considerations of use of technologies, data and information, and organisations' responsibilities to ensure that they behave in an ethical manner.		Learners should understand how individuals in the digital sector plan solutions and communicate meaning and intention. They should understand how different forms of written and diagrammatical communication can be used to express understanding and demonstrate the flow of data and information. Learners should be able to interpret and use standard conventions to combine diagrammatical and written information to express an understanding of concepts.	Students should consolidate their knowledge and apply it to different scenarios within an ICT context.	
	<i>Why are we doing this now? How does this build on prior knowledge and the knowledge still to come?</i>	This topic will build on understanding of how their own personal data is used e.g. in a school setting, on social media and websites etc. They will also use some of their understanding of current environmental issues. This will further support their understanding of how their data and other data should be used.	Learners will build on their previous knowledge taught in year 8 'digital world' where they learnt about copyright and intellectual property. This will further support their use of copyright material for the future.		Learners will learn how information flow can be represented with the use of diagrams, this will support progression to Level 2 or 3 vocational or academic qualifications.	Students will learn different exam techniques in preparation for the exam.	