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Computing, Business and Media Curriculum Overview

	Year 7	Year 8	Year 9	Year 10	Year 11
Autumn 1	7.1 Getting Started Substantive Knowledge: Students will gain knowledge about how interact with the network and the importance of correct folder structure through forming an understanding of how to correctly use Google Suite Analysis: Students must explain how features can improve documents the importance of email etiquette within the working world Disciplinary Knowledge: Google Suite skills to ensure a professional structure, layout and content	8.1 Inside a Computer Substantive Knowledge: Students will learn how each component links to form communication to process instructions Understanding: Students will be understanding the internal and external components functions and how they interact with software. Explain how instructions are processed using the fetch decode execute cycle. Disciplinary Knowledge: Students will be learning how to take a computer tower with internal components apart. Apply: Peers will be able to apply their understanding of computer architecture in their own life, this would allow students to build their own computers, fix problems and allow them to accurately buy products knowing more details about the specification.	9.1 Computational Thinking Substantive Knowledge: Students will learn how to solve problems using computational thinking, through sequence, selection and iteration. Apply: Students will understand the four different stages decomposition, abstraction, problem solving and Algorithms. They will apply these stages to different problematic scenarios to create an effective solution through flowcharts and pseudocode. Disciplinary Knowledges: Students will harness skills to be able to change algorithms into flowcharts and pseudocode. Students will understand how to search and sort data through algorithms. Understanding: Students should understand how to computationally work out how to solve a problem through the computational thinking stages. Create: To be able to create effective flowcharts and pseudocode algorithms using sequence, selection and iteration.	GCSE Computer Science Component 1-Computer Systems 1.1 Systems architecture 1.2 Memory & Storage Pupils are introduced to the key characteristics of how a computer works. Pupils will look at different components of the CPU, how the fetch decode execute cycle works with the components. Pupils will then understand why binary is necessary for a computer to function. OCR Creative iMedia R093 - Topic Area 1 - The media Industry R093 - Topic Area 2 - Factors influencing product design Pupils are introduced to the different media sectors and products within the media industry. Pupils will also look at Job roles in the media industry creative, technical, senior roles. NCFE Business and Enterprise Unit 1: Entrepreneurship, Business Organisation and Stakeholders Pupils are introduced to the key characteristics of enterprise and entrepreneurs with a focus on risk and reward, and target setting. They also begin to explore the different legal structures a	GCSE Computer Science Component 2 –Computational thinking, algorithms and programming 2.1 Algorithms 2.2 Programming fundamentals Pupils will know how to conduct a bubble. Merge and insertion sorting algorithm as well as know the advantage and disadvantage of each. Pupils will use their disciplinary knowledge to conduct problem solving in python. OCR Creative iMedia R094 - Visual identity and digital graphics Resits R095 - Characters and Comics R095 - Create and Review characters and comics Pupils will plan, create and review a multipage comic based on the brief from a client. NCFE Business and Enterprise Unit 6: Sources of enterprise funding and business finance Pupils are introduced to business and enterprise funding and finance. Pupils gain an understanding of a range of commonly used financial documents (for example, break-even charts, income statements and statements of

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				business can take and associated terminology.	financial position).
Autumn 2	7.2 Digital Behaviours Substantive Knowledge: Students will gain knowledge about cyber crime Understanding: They will form an understanding of different cybercrimes such as, hacking, cyberbullying, phishing, malware and fraudulent emails. Analysis: Students must be able to explain the threats cybercrime poses on society and the importance of the awareness people should have. Skills: A multimedia resource explaining all the different cyber-crimes which can be used to make others aware of the situations people face daily.			GCSE Computer Science Component 1-Computer Systems 1.2 Memory & Storage Pupils are introduced to converting denary numbers into binary and hexadecimal. They will learn new skills in conversions and learn discipline knowledge of how binary is used to store images and sound. Pupils will also learn the different types of compression. OCR Creative iMedia R093 - Topic Area 2 - Factors influencing product design R093 - Topic Area 3 - Pre Production planning Pupils will know the purposes of media – advertise/promote, educate, entertain, inform, influence and understand how style, content and layout – colour, conventions of genre can impact an audience. NCFE Business and Enterprise Unit 2: Market research, market types and orientation and marketing mix Pupils are introduced to the marketing mix. They explore the	GCSE Computer Science Component 2 –Computational thinking, algorithms and programming 2.2 Programming fundamentals Pupils will continue to practice how to convert problems into solutions using python. OCR Creative iMedia R094 - Visual identity and digital graphics Resits R095 - Characters and Comics R095 - Create and Review characters and comics Pupils will plan, create and review a multipage comic based on the brief from a client. NCFE Business and Enterprise Unit 8: Business and Enterprise Planning Pupils are introduced to the purposes and benefits of business and enterprise planning and the sections of a business plan. Pupils consider the business type, marketing strategy, and financial, physical, and human resources.

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				four key elements of product, place, price and promotion and how these can differ for different business organisations. They also explore market research, market types and orientation types.	
Spring 3	7.3 Into the Future Substantive Knowledge: Students will gain knowledge of how technology impacts society through understanding of how technology can change how we live in the future Analysis: Students will apply current knowledge of technology and apply this to different aspects of future advancements within health, education, personal lives and businesses. Disciplinary Knowledge The positives and negatives of the evolution of technology with ethical issues and threats that come with.	8.2 Our Digital Society Substantive Knowledge: Students will be able to explore the advancements in technology looking at the legal and ethical implications by forming an understanding on how technology is implemented within all areas of society and the impact that has on individuals. Analysis: Students will form balanced arguments looking at the environmental, ethical and legal implications of technology. Disciplinary Knowledge The positives and negatives of the evolution of technology with ethical issues and threats that come with.	9.2 Networking Retrieval: Students will be able to use their own knowledge of how to connect to the internet and advance their understanding in networking. Substantive Knowledge: Students will know how devices connect to one another across the world by understanding the difference between the internet and the world wide web. Explain the importance of an IP address and how they differ from DNS. Analyse: Students will be able to analyse different network scenarios and recommend whether a PAN, LAN and WAN would be suitable. They will then delve into the intricacy of networks and recommend the components and how to connect them using the appropriate topology.	GCSE Computer Science Component 1–Computer Systems 1.3 Networks Pupils will understand different types of networks and how different factors can affect the performance of these networks. Pupils will know the hardware needed to connect different types of network. OCR Creative iMedia R094 - Visual identity and digital graphics Pupils will plan, create and review media products based on the brief given by the client. NCFE Business and Enterprise Unit 3: Human Resources Pupils are introduced to human resource requirements and staff development, monitoring and motivation. This is done through a series of scenarios looking at recruitment, contracts, disciplinary procedures, staff training, staff contracts and motivation methods.	GCSE Computer Science Component 2 –Computational thinking, algorithms and programming 2.3 Producing Robust Programs Pupils will learn how to effectively refine problems using different strategies. Pupils will learn how to test and implement authentication strategies into their programs. OCR Creative iMedia R094 - Visual identity and digital graphics Resits R095 - Characters and Comics Resits Revision for R093 NCFE Business and Enterprise Controlled Assessment (NEA) Pupils are introduced to the controlled assessment tasks. They apply theories and concepts from across the qualification specification in context to skills-based situations by building a portfolio of work.

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Spring 4	7.4 Computational Thinking Substantive Knowledge: Students will learn how to solve fundamental problems using computational thinking stages through identifying the difference between the different stages of computational thinking Apply: Students will understand the four different stages decomposition, abstraction, problem solving and Algorithms. They will apply these stages to different problematic scenarios to create an effective solution. Disciplinary Knowledge Students will harness skills to be able to change algorithms into flowcharts. Create: To be able to create effective algorithms to solve problems through computational thinking.	8.3 Data Representation (Binary) Substantive Knowledge: Students will learn data is processed and stored within a digital device by explaining how characters, images and sound are represented by binary. To understand factors that affect file size and how to combat these with the use of quality and compression. Apply: To calculate file sizes of sound, images and text files using binary. Disciplinary Knowledge: Students will be able to convert denary numbers into binary and hexadecimal numbers.	9.3 Network Security Substantive Knowledge: Students will learn about the dangers to a network through malware, social engineering and forms of attack. Students will also look at how to prevent these network risks. Apply: Students will understand the different types of malware, social engineering and forms of attack. They will then learn the different types of prevention methods and apply this knowledge when combating each type of attack. Disciplinary Knowledges: The positives and negatives prevention methods for each type of attack.	GCSE Computer Science Component 1–Computer Systems 1.4 Threats & vulnerabilities 1.5 Systems software Pupils will understand the different threats posed to a network and the prevention methods to put in place. Pupils will also understand operating systems and utility software. OCR Creative iMedia R094 - Visual identity and digital graphics R094 - Pre Production, production and Post production Pupils will plan, create and review media products based on the brief given by the client. NCFE Business and Enterprise Unit 4: Operations Management Pupils are introduced to outsourcing, methods of lean production and quality systems, production methods and customer service. By considering an automotive manufacturer and retailer, pupils get an insight across a range of operative management strategies.	GCSE Computer Science Component 2 –Computational thinking, algorithms and programming 2.4 Boolean Logic 2.5 Programming Languages Pupils will learn the different boolean operators and produce logic circuits and truth tables to test if an algorithm will work. Pupils will know the positives and negatives of different programming languages and how they are translated. OCR Creative iMedia R094 - Visual identity and digital graphics Resits R095 - Characters and Comics Resits Revision for R093 Through the use of past papers and other revision resources pupils will further develop their exam technique in preparation for their examination. NCFE Business and Enterprise Controlled Assessment (NEA) Pupils continue to work on their controlled assessment tasks. Pupils will evidence their capability to integrate and apply knowledge, understanding and skills gained with breadth and depth in context.

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Summer 5	7.5 Programming (Edublocks) Substantive Knowledge: Students will learn how to program in small basic learning simple commands through understanding different commands allowing them to create code to allow users to input data. Disciplinary Knowledge: coding using the correct syntax, debugging, using variable, If, Else, ELIF, Operators and Boolean. Apply: skills in other areas maths(algebra) and English(punctuation) to understand programming concepts Create: Students will be able to create an interactive quiz which will allow the user to answer and receive responses. This will be a combination of knowledge, understanding and skills. Evaluate: Students will assess their peers' work evaluating their code and suggest improvements to be made.	8.4 Pitching and Planning Substantive Knowledge: Students will be able to combine text, images and interactive features to present information to pitch an idea for a business. Analysis: Students will be able to explain the importance of being an entrepreneur and the opportunities available to be successful. Disciplinary Knowledge Students will learn image editing techniques such as colour splash, crop, colour fill, effects and background removal. They will also learn how text and images can be presented differently depending on the purpose and audience. Students will gain presenting opportunities to pitch their enterprise using the advertising campaign.	9.3 Python Programming Retrieval: Students will use their knowledge of command words from Small Basic to learn a new programming language. Substantive Knowledge: Students will be able to code their own algorithms within python, recapping their understanding of algorithms from 9.1 Computer Science Starter. Disciplinary Knowledge Students will be coding their own programs with different complexities using different command words and operators to compare conditions. Evaluating: Students will be critiquing their own code and their peers to ensure that the programs are effective and to progress using iteration with ease. Create: Students will be creating a variety of complex programs from calculators to games.	GCSE Computer Science Component 1–Computer Systems 1.6 Ethics, Legal and Environmental Impact on Technology Pupils will learn about how technology in society can have positive and negative implications which can impact people ethically, morally, legally and environmentally. OCR Creative iMedia R093 - Topic Area 4 - Distribution considerations Pupils will understand the different types of file formats and how the files can be distributed to customers and clients. Pupils will also understand the different types of compression needed for distribution. NCFE Business and Enterprise Unit 5: Business Growth Pupils are introduced to business and enterprise growth covering both internal and external growth, the efficiencies and costs of business and enterprise expansion and the challenges of growth	GCSE Computer Science J277 Revision Component 1–Computer Systems Component 2 –Computational thinking, algorithms and programming Through the use of past papers and other revision resources pupils will further develop their exam technique in preparation for their examination. OCR Creative iMedia Revision for R093 Through the use of past papers and other revision resources pupils will further develop their exam technique in preparation for their examination. NCFE Business and Enterprise Exam Preparation Through the use of past papers and other revision resources pupils will further develop their exam technique in preparation for their NCFE examination.

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Summer 6	7.6 Comics - Pixton Substantive Knowledge: Students will be able to combine text, images and comic book codes and conventions to present information through different panels to complete a comic book. Analysis: Students will be able to explain the importance of the audience and purpose when creating a comic book. Disciplinary Knowledge: Students will understand the tools needed to create an effective comic book. They will know the importance of movement and expressions to tell a story for a character.			GCSE Computer Science Component 2 –Computational thinking, algorithms and programming 2.1 Algorithms Pupils will understand how computational thinking can help to solve problems using the different stages. Pupils will also practise how an algorithm can be presented in Pseudocode and flowcharts. OCR Creative iMedia R093 - Topic Area 3 - Pre Production planning R095 - Characters and Comics Pupils will understand the different pre production methods needed to plan a media product. Pupils will also learn about the legal issues when it comes to media products. NCFE Business and Enterprise Unit 7: The Impact of the External Environment Pupils are introduced to external influences and how they impact business. Pupils consider how governmental changes, current affairs and recent events can impact businesses and affect decision making.	