Computing long term plan

LONG TERM CURRICULUM PLANNING OVERVIEW:					
Computing					
	YEAR 7	**YEAR 8**	**YEAR 9**	**YEAR 10**	**YEAR 11**
Autumn A Topic	**Basic Skills**	**Scratch**	**Understanding Computers**	**Creative iMedia**	**Creative iMedia**
Autumn A Knowledge	Understanding different programs used in the school setting.	Understand at least 2 Algorithms to solve the same problem.	Understand the hardware and software components used to make a computer system work.	**Creative iMedia - R094 Creating Digital Graphics**	**Creative iMedia – R097 Interactive Digital Media Project**

Understand how files and folders work on the school network. Understand how effective passwords can be used to improve security.	Understand the use of variables in programming. Understand how instructions are stored and executed within a computer system.	Understanding of computing technology and how it's developed. Understand the ethical, social and legal considerations of using computers. Understand the need to save and name files correctly. Understand the different file formats for different electronic media. Understand the hardware and software needed for different tasks. Understand the different health and safety issues when working with electronic media. Understand the legislation and consequences surrounding the use of digital media.	Understand the basics of digital graphics editing for the creative and digital media sector. Students will learn where and why _digital graphics are used and what techniques are involved in their creation. This unit will develop learners' understanding of the client brief, time frames, deadlines, and preparation techniques as part of the planning and creation process.	In the second year of study in Creative iMedia we would expect students to: •understand and apply the fundamental principles and concepts of digital media including factors that influence product design, use of media codes and conventions, pre-production planning techniques, legal issues and creation/publishing/distribution considerations •develop learning and practical skills that can be applied to real-life contexts and work situations •think creatively, innovatively, analytically, logically and critically •develop independence and confidence in using skills that would be relevant to the media industry and more widely •design, plan, create and review digital media products which are fit for purpose meeting both client and target audience requirements.

Autumn A Skills	Using a variety of software to carry out simple day-to-day tasks. Create and edit a poster for a fictional business. Create multiple folders on the computer network.	Use of a programming language to solve a problem. Use procedures and be able to explain how the procedure works and be able to test it. Undertake a project to achieve challenging goals.	Convert Binary and Denary numbers 0-15. State the output of different logic gates AND OR NOT. Applying knowledge to set tasks to create electronic media products and achieve challenging goals. To analyse and evaluate media products of their own and from others and suggest improvements for them.	Students will be able to plan the creation of digital graphics, create new digital graphics using a range of editing techniques and review a completed graphic against a specific brief.	Apply knowledge and understanding to select information from and investigate business organizations and concepts using subject specific terminology. Application of quantitative skills. Analyze, evaluate information and evidence to make judgements and conclusions suggesting some recommendations for future activity.
Autumn A Assessment opportunity	Use a variety of editing techniques to create a poster	Scratch end of topic test	Understanding computers end of topic test	Coursework produced as part of R094 project	Coursework produced as part of optional project
Autumn B Topic	**Micro: bits**	**Computer Networks**	**Python**	**Creative iMedia - R094 Creating Digital Graphics**	**Creative iMedia – R097 Interactive Digital Media Project**

| Autumn B Knowledge | Designing and creating programs for the BBC Micro bit computers.

Understand how sequence, selection and iteration can be applied to computer programs.

Gain knowledge of a block-based programming language | Understand how search engine results are selected and ranked. Understand the hardware and software components that make up networks, how they interact. How does different hardware and software affect cost and performance? Explain how networks such as the Internet work. | Understand at least 2 Algorithms to solve the same problem. Understand the use of variables in programming. Understand how instructions are stored and executed within a computer system. Understand how text-based programs vary from block based. | Understand the basics of digital graphics editing for the creative and digital media sector.

Students will learn where and why digital graphics are used and what techniques are involved in their creation. This unit will develop learners' understanding of the client brief, time frames, deadlines, and preparation techniques as part of the planning and creation process. | In the second year of study in Creative iMedia we would expect students to:

•understand and apply the fundamental principles and concepts of digital media including factors that influence product design, use of media codes and conventions, pre-production planning techniques, legal issues, and creation/publishing/distribution considerations
•develop learning and practical skills that can be applied to real-life contexts and work situations
•think creatively, innovatively, analytically, logically, and critically
•develop independence and confidence in using skills that would be relevant to the media industry and more widely
•design, plan, create and review digital media products which are fit for purpose meeting both client and target audience requirements. |
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Autumn B Skills	Understand that there are 2 states on and off. Problem solving using code. Creating Grids and understanding an accelerometer. Writing a program in Make Code Editor.	Being able to use a search engine to narrow down results and select information relevant to a set topic. Be able to match computer network hardware to their names. Order packets that are sent over a network and build them back together. Correctly label parts of a website.	Use of a programming language to solve a problem. Use procedures and be able to explain how the procedure works and be able to test it. Undertake a project to achieve challenging goals.	Students will be able to plan the creation of digital graphics, create new digital graphics using a range of editing techniques and review a completed graphic against a specific brief.	Apply knowledge and understanding to select information from and investigate business organizations and concepts using subject specific terminology. Application of quantitative skills. Analyze, evaluate information and evidence to make judgements and conclusions suggesting some recommendations for future activity.
Autumn B Assessment opportunity	Micro bits end of topic test	Networks end of topic test.	Python end of topic test	Coursework produced as part of R094 project	Coursework produced as part of optional project
Spring A Topic	**Online Safety**	**HTML**	**Digital Image Project**	**Creative iMedia - R094 Creating Digital Graphics**	**Creative iMedia – R097 Interactive Digital Media Project**

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| Spring A Knowledge | Understand a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting their online identity and privacy; recognize inappropriate content, contact, and conduct and know how to report concerns. | Understand what HTML stands for. Understand how a website is made up of HTML code. Understand what CSS is. Understand the tags that can be used on a website. | Undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting, and analyzing data and meeting the needs of known users. | Understand the basics of digital graphics editing for the creative and digital media sector. Students will learn where and why digital graphics are used and what techniques are involved in their creation. This unit will develop learners' understanding of the client brief, time frames, deadlines, and preparation techniques as part of the planning and creation process. | In the second year of study in Creative iMedia we would expect students to:

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Spring A Skills	Create effective passwords for all their accounts. Show how they can keep their data safe. Effectively use email accounts for school. Know how to search the web.	Use HTML to create a website of their choosing. Use search indexing to correctly use a website. Use CSS to style a website.	Create, re-use, revise and re-purpose digital artefacts for a given audience, with attention to trustworthiness, design, and usability. Evaluate the results of the set task and suggest improvements that could be made.	Students will be able to plan the creation of digital graphics, create new digital graphics using a range of editing techniques and review a completed graphic against a specific brief.	Apply knowledge and understanding to select information from and investigate business organizations and concepts using subject specific terminology. Application of quantitative skills. Analyse, evaluate information and evidence to make judgements and conclusions suggesting some recommendations for future activity.
Spring A Assessment opportunity	End of topic assessment using multiple choice questions.	HTML summative assessment with multiple choice questions. Create a website with functionality and styling	Research, create and evaluate a digital image.	R094 project assessed and entered	R097 project assessed and entered
Spring B Topic	**LOGO Programming**	**Cybercrime**	**AI and Machine Learning**	**Creative iMedia – R093 Theory**	**R093 Theory Revision**

| Spring B Knowledge | To understand how programming is used, what procedures are and how to test them. Apply that knowledge to a given task.

Understand how sequence, selection and iteration can be applied to programming.

Gain knowledge of computer commands. | Understand what can be identified as an email scam.
Understand what the computer misuse act is.
Understand what data can be held about you by different companies.
Understand what copyright law is.
Understand what health and safety problems can occur in computing. | Understand the origin and uses of AI
Understand how rules are used in AI decision making.
Understand the difference between facts and rules.
Understand how jobs can be affected by AI and automation.
Understand how bias can be introduced into AI algorithms and machine learning.
Understand how images are stored as binary data. | This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process.

This unit will enable learners to acquire the underpinning knowledge and skills needed to create digital media products and gain an understanding of their application. | This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process.

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Spring B Skills	Use of a programming language to solve a problem. Use procedures and be able to explain how the procedure works and be able to test it. Undertake a project to achieve challenging goals.	Be able to identify an email that is a scam. Use the computer misuse act to produce an information sheet for a business. Use the copyright creative licence to identify which images on the internet can be used. Show how a computer desk should be correctly adjusted for health and safety measures.	Investigate the rules needed to solve problems including: Classification, Navigation of a maze or road. Use training data to create rules that solve problems of categorising data. Review program code and adapt it to detect given shapes.	This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process. This unit will enable learners to acquire the underpinning knowledge and skills needed to create digital media products and gain an understanding of their application.	This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process. This unit will enable learners to acquire the underpinning knowledge and skills needed to create digital media products and gain an understanding of their application.
Spring B Assessment opportunity	Use variables to create various shapes in LOGO software. Use all skills covered so far to make either a shape with different colours or to make a house with different characteristics.	Computer crime end of topic test	AI and machine learning assessment portfolio	Mock exam	Revision papers, mock assessments
Summer A and B Topic	**Messaging in digital media**	**Mobile App Development**	**iDEA Badges**	**Creative iMedia – R093 Theory**	**Students have now finished the course and are completing exams.**

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Summer A and B Knowledge	Understand what intellectual property is. Understand audience for a product. Gain knowledge of effective feedback. Be able to effectively understand what branding is and how it affects a product. Understand what is required to give a good presentation.	Understand at least 2 Algorithms to solve the same problem. Understand the use of variables in programming. Understand how instructions are stored and executed within a computer system. Understand that different programming languages are used for different purposes.	iDEA is a digital and enterprise version of The Duke of Edinburgh Award in which participants complete a series of challenges to achieve an award at bronze, silver or gold level. For every new skill and learning experience mastered, iDEA participants gain a digital badge worth several points. When sufficient points have been accumulated, participants are then awarded their Bronze, Silver or Gold Inspiring Digital Enterprise Award.	This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process. This unit will enable learners to acquire the underpinning knowledge and skills needed to create digital media products and gain an understanding of their application.	

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Summer A and B Skills	Undertake creative projects that involve selecting, using, and combining multiple applications to achieve challenging goals. Create, reuse, revise and repurpose digital information. Explain your work to others through a presentation. Effectively give feedback to peers by following a rubric.	Design, use and evaluate computational abstractions that model the state and behaviour of real-world problems. Use of a programming language to produce a mobile app. Use procedures and be able to explain how the procedure works and be able to test it.	Skills will be developed in the following areas: -Citizenship -Computing careers -Using IT for digital making -Entrepreneurship	This unit will enable learners to understand pre-production skills used in the creative and digital media sector. It will develop their understanding of the client brief, time frames, deadlines and preparation techniques that form part of the planning and creation process. This unit will enable learners to acquire the underpinning knowledge and skills needed to create digital media products and gain an understanding of their application.	

Summer A and B Assessment opportunity	Create a presentation for a particular charity, and present in groups to the class.	Create a mobile app with functionality required by a client. Complete Mobile App Development end of topic test.	Students can gain the bronze, silver, or gold iDEA award certificate.		