Curriculum Overview Year 9 Computing

	Focus	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 9	**Topic**	**Unit 01** – Introduction to Programming	**Unit 02** – Emerging Technologies	**Unit 03** – Advanced Programming **Unit 04** – Cyber Security	**Unit 05** – App Development **Unit 06** – History of Computing	**Unit 07** – Machine Language **Unit 08** – Web Development	Unit 09 – Ethics in Computing Unit 10 – Multimedia Project
	Key concepts/ideas	Students will learn to develop games through the popular platform Scratch.	Students will look at a range of emerging technologies used across a range of industries including finance, construction, education as well as others.	Students will learn more complex programming concepts in the language Python & learn the impact of cyber criminals on the word around us and ways of stopping them.	Students will develop the skills that they gained during unit 03 to build an app based on an idea of their choosing. Students will study a number of pioneers in the computing industry.	Students will learn how machines read data including conversions between binary, denary and hexadecimal. Students will also learn to develop and design commercial web pages.	Students will partake in debates around a number of ethical issues including the use of artificial intelligence and surveillance. Students will then produce a summary video of the learning throughout the year.
	Key skills	Problem Solving & Programming.	Use of emerging technologies. How different careers make use of emerging technologies.	Programming using an industry recognised language.	Problem Solving Programming. Technological Design.	Be able to convert binary integers to denary/ hex. Students will be able to apply HTML, CSS and JavaScript to real world projects.	Multimedia presentations. Video and sound editing. Communication skills. Awareness of technological issues affecting the world today.
	Key terms/vocab	Sprite, Construct, Sequence, Selection, Iteration.	Virtual Reality, Artificial Intelligence, Robotics, Augmented, Nano-Tech.	Sprite, Construct, Sequence, Selection, Iteration, Arrays.	Sprite, Construct, Sequence, Selection, Iteration, Arrays, Application.	Hypertext Markup Language, Cascading Style Sheets, JavaScript, Binary, Denary, Hexadecimal, Machine Language.	Multimedia Presentation Ethics Morals Legal
	Independent learning / wider reading						
	Assessment	Students choose one of three projects to complete independently using the skills they have learned in previous lessons.	Students will have to discuss a range of emerging technologies and how they are used in industry.	Students will have to complete a series of programming challenges, demonstrating a wide range of skills covered in class.	Students will develop and design an app of their choosing.	Students will design and develop a professional looking website.	Students will produce a video which summarises and showcases their time in computer science.
	Careers links	Software Engineering Games Development	Future Jobs	Software Engineering Games Development Cyber Security Ethical Hacking	Software Engineering App Developer	Hardware Architecture Design Web Developer	Future & current jobs market Multimedia