Long Term Plan – Computer Science (2024-25)

Vision: Computer Science is essential to understanding the world in which our students live. This curriculum has been created to prepare students for the ever expanding world of technology and how it is integral into our day to day lives. Students will be able to explore the vast avenues of the computing industry, from network infrastructure to software development. Students will use industry standard software to develop their practical programming skills as well as delve into knowledge that will help them become competent problem solvers that not only will help them in Computer Science but in every aspect of their educational lives and further beyond.

	HT1	HT2	HT3	HT4	HT5	HT6	Year End Points
Year 7	Key Skills & E Safety (MTP 1, Introduction to Computer Science and Internet Safety)	Scratch Basic Programming (Sequence of Code) (MTP 2 Scratch Creating a Calculator)	Hardware and Software (MTP 3 Computer Hardware)	Spreadsheets (MTP 4 Excel Spreadsheets)	Scratch Basic Game Design (MTP 5 Scratch Part 2 new skills)	(HTML p1) HTML Introduction (MTP 6 Introduction to HTML web design)	• To have secure knowledge in being able to use the many software and toolkits provided to them, e.g. emails, Onedrive, Office Suite etc to a basic level. • To competently know what the three pillars of programming are and how they can be applied (Sequence, Selection and Iteration)
Year 8	Computer Legislation (MTP 1 My Digital World)	Data Representation (Binary) (MTP 2 Binary Bits and Bobs)	Storage Devices and Memory (MTP 3 Storage Devices and Memory)	Databases (MTP 4 Microsoft Access Database Creation)	Kodu vs Micro-Bit Programming (MTP 5 Kodu and Micro-bit Programming)	(HTML p2) CSS (MTP 6 CSS Web design)	• To understand the many forms programming can take and to build upon the knowledge from scratch the previous year. • To expand further the areas of spreadsheets and how they can be formed into databases to inform decisions. • To have a good understanding on how computers use data to produce images, videos, sounds and text.
Year 9	Computing in Society (History of Technology) (MTP 1 Computing in Society)	Python Programming Introduction (MTP 2 Python Programming)	Networks and System Security (MTP 3 Networks and Security Issues)	Data representation (Hexadecimal) (MTP 4 Data Representation Binary to Hex)	Computational Thinking with Algorithms (MTP 5 Computational Thinking with Algorithms)	(HTML p3) Javascript (MTP 6 Web design using Javascript interaction)	• By the end of this year students will have developed further the foundational skills in the previous years of programming and progress fully into text based programming languages such as Javascript and Python. • Gain an understanding of how technology progresses and follow the patterns in today's world to predict how it will turn out in the future. • Have foundational knowledge and schemas in networks and data representation to build upon in year 10 and 11 should they take it Computer Science as an option for GCSE.
Year 10	(MTP 1 Computer Architecture)	(MTP 2 Data Representation)	(MTP 3 Networking and Protocols)	(MTP 4 System Security)	(MTP 5 Operating System and Utility Software)	(MTP 6 Issues and Legislation)	• Students will obtain a rich knowledge of all aspects of computer science ranging from how a computer works (built on from years 7 to 9) understanding how emails and communication is done through computers (built upon from year 9) and looking into the rich world of law and how computer science is at the forefront of legislation these days with controversies surround technology and the users.
Year 11	(MTP 1 NEA Programming Prep)	(MTP 2 NEA Programming Project)	(MTP 3 Logic and Development)	(MTP 4 Programming Techniques and Data)	(MTP 5 Producing Robust Programs and Defensive Design)		• Students will gain a strong grasp of programming at a higher level built upon all the previous years of work and knowledge to be able to read and produce code to a strong level. • To gain a strong problem solving skill set to tackle not only problems faced with computer science but in all aspects of life.