Computing

- Provide a high-quality Computing and IT education that equips students to understand and change the world through computational thinking, and provides a sense of empowerment and excitement in developing and using digital technology. We aim to teach students to effectively apply this education to solve real-world problems thus amplifying their potential for lifelong high-quality careers and give them a competitive advantage in the ever-changing and challenging global work environment of the 21st century.

  We aim to empower all of our learners with a set of skills to allow them to be able to cope with, and develop themselves in, the digital demands of the current environment we live it. It is our aim to encourage all learners to leave Chelsea Academy with a computing qualification to best prepare them for the world of work and to also help them in their further academic studies.

What is our USP (Unique Selling Point)?

- Chelsea Academy has over 300 computers, laptops & tablet devices.
- Our computing staff have degrees in computer based areas of study which cover computer science, web technologies, multimedia design & programming.
- Our computing staff have industry based experience from working in a range of IT based roles which enable us to pass on skills & advice to our learners.
- We have been teaching Computer Science for over 5 years while many schools & academies from the UK are struggling to delivery this course successfully.
- IT based jobs are expected to grow at nearly 5 times the UK average over the next 10-15 years.
- We offer a number of enrichment opportunities to help develop our learners with IT based skills. Digitally Creative - a weekly opportunity for students to gain skills in areas such as graphic design, animation design, 3D design. Web development - a weekly skills club for learning web design. PC Maintenance Group - Learn how to fix & maintain PCs, install hardware & software. Programming club - A weekly class to help build your programming skills & become an efficient Python programmer.
- Take parts in events & competitions to go up against the best Digital Leaders from across London & the rest of the UK. Events such as STEM Awards, CICSO LittleBIG Ideas, Code Academy & The Faraday Challenge London.
- Take part in trips to the Computing Museum, EuroGamer, CISCO London & Apple.

What is studied in Key Stage 3?

	Year 7	Year 8

Autumn Term	**E-safety and Security** ● Understanding digital safety ● Understanding how to stay safe online ● Understanding the laws & rules online ● How to avoid cyberbullying ● How to report cyberbullying	**Web Development** ● Understanding HTML and why it is used ● Using notepad to create a webpage ● Using HTML to add content to a webpage ● Adding links and features ● Adding style with code
	Understanding Computers ● What is a computer system ● What is hardware & software ● What are input & output devices ● The key components of a computer ● Using binary code	**Advanced Databases** ● Explain what a query is ● Understand the difference between a query and a filter ● Understand the difference between validation and verification ● Apply simple validation rules to a database-Create a database report ● Annotate a report to explain what it shows ● Understand why we use reports
Spring Term	**Programming Basics** ● Creating basic code ● Input & output statements ● Understanding what variables are ● Creating a programme with BBC Microbit	**Flash Animation** ● Understanding what an animation is ● Understand how to use Flash software ● Adding interactivity to an animation ● Planning an animation for a target audience ● Creating an animation to meet success criteria
	Data Representation ● Understanding how data is used in a computer system ● What are bits & bytes ● Converting binary code to ASCII ● Converting Hexadecimal numbers ● What is unicode	**Networks** ● Understanding what a network is & what they do ● Understanding network topologies ● Bus, Star, Ring & Mesh networks ● Advantages & disadvantages of a network

Summer Term	**Digital Creativity with Graphics** ● Understanding different image types ● Understanding Photoshop ● Using basic Photoshop tools ● Using advanced Photoshop tools ● Creating a digital graphic	**Problem solving and algorithms** ● Understanding the concept of algorithms ● Problem solving skills ● Using an algorithm to solve a problem ● Flowchart & pseudocode planning ● Creating a program based on algorithms
	Spreadsheet Modelling ● Understanding what are spreadsheets ● Adding, removing & editing information ● Creating formulas ● Creating functions ● Using charts & graphs	**Intermediate Python Programming** ● Inputs & Print messages ● Variables & constants ● If statements ● For & while loops ● Creating a functioning programme