

Key Stage 4: Computer Science 2023 – 2024

Prior Learning:

At KS3 the aim was for students to study the following areas:

- A foundation of basic IT and Computational Skills needed for our current Digital Age (Email, E Safety, Presenting Information, Files and Documents, Spreadsheets, Research Skills)
- Key programming concepts and skills development (Sequence, Selection, Iteration, Flowcharts and Algorithms, Python Programming Language)
- Wide ranging theoretical understanding (Binary, Logic Gates, Networking and the Internet)

Curriculum Intent:

Computer Science at JKHS focuses on empowering students to develop an understanding to the key principles and python programming in computer science. Our ultimate aim is to prepare student for further study and diverse careers. JKHS focuses on real-world application to problem solving and creativity allowing students to implement skills for learning and adaptability. Computer Science wants to encourage students to gain an understanding and passion to change the world around, allowing them the power to do more.

Year 10

Module Title	Autumn Term 1 (7 Weeks)	Autumn Term 2 (7 Weeks)	Spring Term 1 (5 Weeks)	Spring Term 2 (6 Weeks)	Summer Term 1 (6 Weeks)	Summer Term 2 (7 Weeks)
		Systems Architecture and Programming	Memory and Storage and Programming	Algorithms and Programming	Computer Networks and Security	Legal & Ethical and Y10 Recapping
Learning Focus	Learning about the hardware components of a CPU, how they work together for the function of a working Computer System. Students will also learn the basic components of the Python Programming Language	Students will learn about the types of Computer memory and how computers represent images, sounds and characters. Students will also focus on learning number conversions using denary/binary/hex. Students will also continue to develop their knowledge of programming.	Students will learn about different searching and sorting algorithms used in computer programming. Students will learn about the use of Subprograms in computer programming	Students will learn about the networks, the internet and the different threats that are posed on the internet and how we can protect ourselves from them.	Students will learn the different laws related to computing and the Environmental, Ethical and Moral Impacts of computing in this Digital Age. Students will revisit all topics covered in Year 10 to ensure understanding	Students will continue to learn key programming concepts and structures for their exams.
Careers Focus	Computer Technician, Computer Architecture Designer, Programmer, Software Developer		Network Manager, Network Technician, Cyber Security, Programmer, Software Developer		Programmer, Software Developer	
Assessment	AS1/10 (Baseline)	AS2/10	AS3/10	AS4/10 (Mid-Way)	AS5/10	AS6/10 (Mock Assessment)

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Year 11					
Module Title	Autumn Term 1 (7 Weeks)	Autumn Term 2 (7 Weeks)	Spring Term 1 (5 Weeks)	Spring Term 2 (6 Weeks)	Summer Term 1 (6 Weeks)
	Boolean Logic and Systems Software	Programming Languages and IDEs, Robust Programmes	Paper 1 Recap	Paper 2 Recap	Revision
Learning Focus	<p>Students will learn about Boolean logic gates and how to use and apply them.</p> <p>Students will also learn about the different types of software that keep the computer running and operating efficiently.</p>	<p>Students will learn the importance of IDE's in computer programming the different types of languages used.</p> <p>Students will work on how to protect their programs from inappropriate use</p>	<p>Focus on revision for the Paper 1 exam.</p> <p>Concentrating on exam technique and how to answer paper 1 questions.</p>	<p>Focus on revision for the Paper 2 exam.</p> <p>Concentrating on exam technique and how to answer paper 2 programming questions.</p>	Revision of key aspects.
Careers Focus	Computer Technician, Computer Architecture Designer, Programmer, Software Developer		Computer Technician, Computer Architecture Designer, Programmer, Software Developer		
Assessment	AS7/11 (Baseline)	AS8/11 (Mid-Way) AS9/11 (November-Mock)	AS10/11	AS11/11 AS12/11 (Assessment)	

JKHS Computing uses Microsoft Teams for all Classwork, Homework and 6/9-A-Week Tasks.