Holmer Green Senior School

Work Hard, Be Kind, Have Passion

SUBJECT BTEC Computer Science -KS5

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 12	Unit 2: Fundamentals of Computer Systems	Unit 2: Fundamentals of Computer Systems	Unit 7: IT Systems security and encryption	Unit 7: IT Systems security and encryption	Unit 7: IT Systems security and encryption	Unit 7: IT Systems security and encryption
	Computer hardware in a computer system. Computer software in a computer system. Data processing. Computer architecture.	How data is represented by computer systems. How data is organised on Computer Systems. How data is transmitted by computer systems. The use of logic and data flow in computer systems.	Current IT security threat types.	Investigate cryptographic techniques and processes used to protect data.	Examine the techniques used to protect data.	Implement strategies to protect an IT system from security threats.

Support at home

Computer Hardware	Computer Software	Computer Architecture	IT systems security and encryption	Cryptographic techniques	Security and encryption techniques	Implementing strategies for a network
https://www.lifewire.com/computer-hardware-2625895	https://www.tutorialspoint.com/basics_of_computers/basics_of_computers_software_concepts.htm	https://isaaccomputerscience.org/concepts/sys_arch_architecture?examBoard=all&stage=all	https://www.open.edu/openlearn/science-maths-technology/computing-and-ict/systems-computer/network-security/content-section-4.1	https://www.educba.com/cryptography-techniques/	https://www.thesslstore.com/blog/types-of-encryption-encryption-algorithms-how-to-choose-the-right-one/	https://www.cisco.com/c/en_uk/solutions/small-business/resource-center/networking/how-to-set-up-a-network.html

Assessments

Assessments:	AP1:Mock exam for Unit 2 AP2:Ongoing assessment of coursework unit + result of actual Unit 2 exam taken. AP3: Ongoing assessment of coursework unit + result of actual Unit 2 exam taken.
	Careers in the curriculum: Data and analysis Data protection Data security

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	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 13	Unit 1: Principles of Computer science	Unit 1: Principles of Computer science	Unit 14: Computer games development	Unit 14: Computer games development	Unit 14: Computer games development	Unit 14: Computer games development
	Computational thinking. Python Programming – developing paradigms.	Types of programming and mark-up languages	Investigate technologies used in computer gaming.	Learning how to use Unity software. Investigating computer games design processes and techniques.	Design a computer game to meet client requirements. Creation of design documentation.	Develop a computer game to meet client requirements.

Support at home

Computational thinking	Python programming	Procedural programming	Object-orientated programming	Event driven programming	Coding for the web	Unity software
https://isaacomputerscience.org/topics/computational_thinking?examBoard=all&stage=all	https://www.python.org/	https://isaacomputerscience.org/topics/procedural_programming?examBoard=all&stage=all	https://www.w3schools.com/cpp/cpp_oop.asp	https://isaacomputerscience.org/topics/event_driven_programming?examBoard=all&stage=all	https://code.org/educate/weblab	https://unity.com/

Assessments

Assessments:	AP1: Mock exam of Unit 1 exam + actual grade of Unit 7 & Unit 2 completed in year 12. AP2: Ongoing assessment of coursework unit + results from Unit 1 & Unit 2 exams and Unit 7 coursework. AP3: Ongoing assessment of coursework unit + results from Unit 1 & Unit 2 exams and Unit 7 coursework.
	Careers in the curriculum: Programming Game designer