

Westfield Academy - Curriculum Information

Pupils will develop their understanding of computer systems, computational thinking, and programming. Pupils will develop theoretical knowledge and practical skills needed for further study or work. The course is assessed through two written exams, covering computational thinking, algorithms, programming, and computer systems.

Computing KS4 Y10

Head of Department	Claire Collacott	
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Lessons per 2 week cycle	GCSE 5	
Specification/Board details/Key stage	OCR GCSE Computer Science J277	

Term by term

Autumn 1	Spring 1	Summer 1
➤ Computer architecture and CPU ➤ Computational thinking ➤ fundamentals of programming	➤ Primary memory. Secondary memory ➤ Images, sound, compression ➤ Binary 2. Hex. Characters	➤ Count Controlled Iteration ➤ Random number generator ➤ Trace tables
Autumn 2	Spring 2	Summer 2
➤ The internet. ➤ Network topologies. Wired and wireless ➤ IP, MAC, encryption. Standards and protocols. ➤ Layers ➤ searching algorithms	➤ The internet. ➤ Network topologies. Wired and wireless ➤ IP, MAC, encryption. Standards and protocols. ➤ Layers ➤ searching algorithms	Data types string manipulation. Arrays defensive design and testing Operating systems
Key Skills developed	analytical thinking, critical thinking, quantitative skills, research skills, communication skills and problem-solving skills	

Useful Websites	https://code.org https://scratch.mit.edu https://www.tynker.com https://www.bbc.co.uk/bitesize/subjects/zvc9q6f https://www.codeavengers.com https://lightbot.com https://ocr.org.uk
Reading/Literacy requirements /Key Words	Good level of English and Maths is required. ☐ Debug ☐ Event ☐ Iteration ☐ Loop ☐ Sprite ☐ Variable ☐ RAM ☐ ROM ☐ Cache ☐ Bus ☐ ASCII ☐ Abstraction ☐ Array
Homework requirements	Quizzes, case studies, independent learning
Personal Development Links	Studying Computing enhances critical thinking, problem-solving, communication, numeracy, research skills, and global awareness.
Trips/Visits (If applicable)	TBC