

Computer Science KS4 Overview

Our KS4 GCSE computer science Program of study is based on the OCR J277 course, and it follows their 2-year model of delivery.

Through it we aim to further develop and advance student's interest in computing, and enhance student's programming skills, so that they are knowledgeable and successful. We also look to build students ability in computational thinking, so that they use it within their own programming, and more broadly within all their digital interactions.

As a result of this programme of study, students should have improved digitally literacy, an improved ability to use technology to express themselves, and have a greater understanding of the impacts digital technology can have on individuals as well as the wider society. In addition to this, students should end up with a greater appreciation of how they should carry out digital communications which is suitable for the future workplace and as active participants in a digital world.

Year 10 OCR J277: Paper 1 & Programming in Python						
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	2.4 Boolean Logic 1.2 Data Storage - Numbers	2.1 Algorithms 2.2 Programming fundamentals	2.2 Programming techniques	1.1 System Architecture 1.1 The CPU	1.2 Storage 1.2 Secondary storage	1.3 Wired and Wireless Networks Year 10 Mock
	1.2 Data Storage - Numbers 2.1 Algorithms	2.2 Programming fundamentals 2.2 Data Types	2.2 Practical programming skills 1.2 Data Storage – Characters, sounds and images	1.1 Embedded Systems	1.3 Network topologies 1.3 Wired and Wireless Networks	2.2 Practical Programming Skills
Skills / Software	Algorithms Decomposition	Programming Debugging Algorithms Decomposition	Programming Debugging Mathematics Problem Solving	Computer Hardware Programming Physical Computing Problem Solving	Abstraction Problem Solving Mathematics	Networking Programming Problem Solving Literacy
External Links	1.2 Data Representation 2.4 Boolean Logic	2.1 Common algorithms & Algorithm production 2.1 Computational Thinking	2.2 Programming fundamentals 2.2 Programming techniques 1.2 Memory and Storage	1.1 System Architecture	1.2 Memory and Storage 1.3 Networking & Wired and Wireless networks	1.3 Networking & Wired and Wireless networks 1.4 System Security 2.2 Programming fundamentals 2.2 Programming techniques

Year 11
OCR - J277 - Paper 2 & Programming in Python

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Knowledge	1.5 OS & Utility Software 2.4 Boolean Logic 1.2 Data Storage - Numbers	2.1 Algorithms 2.2 Programming fundamentals	2.2 Programming techniques 1.2 Data Storage – Characters, sounds and images. 1.1 Embedded Systems	2.3 Testing programs Revision	2.1 Searching and Sorting Algorithms 1.6 Ethical, legal, cultural & environmental impact Revision	
	2.1 Algorithms	2.2 Data Types 2.2 Programming fundamentals	1.2 Compression 2.3 Defensive design	2.5 Programming languages & IDEs Revision Paper 2 Mock	Revision for Paper 1 and 2 Exam 15/05/2024 (Paper 1) 21/05/2024 (Paper 2) Retrieval of prior knowledge	
Skills / software	Algorithms Decomposition Boolean Logic Physical computing	Programming Debugging Algorithms Decomposition	Programming Debugging Mathematics Computer Hardware Programming Physical Computing Problem Solving	Computer Hardware Programming Physical Computing Problem Solving	Anki Seneca BBC Bitesize	
External Links	1.2 Data Representation 2.4 Boolean Logic 1.5 System Software	2.1 Common algorithms & Algorithm production 2.1 Computational Thinking	2.2 Programming fundamentals 2.2 Programming techniques 1.2 Memory and Storage 1.1 System Architecture 2.3 Robust programs	2.5 Translators, IDEs, & Languages Decomposition and algorithm practice questions How to tackle essay-style questions	2.1 Common algorithms & Algorithm production 2.1 Computational Thinking 1.6 Ethics	