

# Switching to AQA GCSE Computer Science from Pearson Edexcel

This guide compares our GCSE Computer Science (8525) specification with the Pearson Edexcel Level 1/Level 2 GCSE (9-1) in Computer Science (1CP2) to help you make the right choice for your learners. At the end of the document, you will find links to further support and helpful resources.

## Assessment structure

### Option/entry codes

AQA GCSE Computer Science	Pearson Edexcel GCSE Computer Science
8525A (C#), 8525B (Python), 8525C (VB.NET) 8525/1A, B or C	1CP2

### Paper 1

AQA GCSE Computer Science	Pearson Edexcel GCSE Computer Science
Title: Computational thinking and programming skills	Title: Principles of Computer Science
Assesses computational thinking, code tracing, problem-solving, programming concepts including the design of effective algorithms and the designing, writing, testing and refining of code	Assesses computational thinking, data, computers, networks, issues and impact
Written paper: 2 hours 90 marks 50% of GCSE	Written paper: 1 hour 30 mins 75 marks 50% of GCSE
Mix of multiple choice, short answer and longer answer questions assessing programming, practical problem-solving and computational thinking skills Learners answer questions using one of the following: C#, Python (version 3), VB.NET	Five compulsory questions, each one focused on one of the topic areas Questions consist of multiple choice, short-, medium- and extended-open-response, tabular and diagrammatic items

## Paper 2

AQA GCSE Computer Science	Pearson Edexcel GCSE Computer Science
Title: Computing concepts	Title: Application of Computational Thinking
Assesses data representation, computer systems, computer networks, cyber security, relational databases and SQL, ethical, legal and environmental impacts of technology	Assesses: <ul style="list-style-type: none"> <li>• understanding what algorithms are, what they are used for and how they work in relation to creating programs</li> <li>• understanding how to decompose and analyse problems</li> <li>• ability to read, write, refine and evaluate programs</li> </ul>
Written paper: 1 hour 45 minutes 90 marks 50% of GCSE	On-screen exam: 2 hours 75 marks 50% of GCSE
Mix of multiple choice, short answer, longer answer and extended response questions assessing SQL programming skills and theoretical knowledge	Six practical questions requiring learners to design, write, test and refine programs using their Integrated Development Environment (IDE) of choice  Learners provided with coding files and the programming language subset (PLS)  Learners answer on-screen using Python

## Summary of key differences

The following tables give a high-level summary of some key differences between the two qualifications. This list is not comprehensive but highlights the differences we think will be most important for you and your learners. In some areas this may be a difference in terminology only.

### AQA Paper 1 – Computational thinking and programming skills

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Representing algorithms		Be aware that a program is an implementation of an algorithm Identify inputs, processes and outputs in an algorithm
Designing algorithms	Efficiency (number of compares, number of passes, use of memory)	Compare the time efficiency of algorithms Understand that different algorithms can solve the same problem Advantages and disadvantages of an algorithm
Arithmetic operators	Exponentiation	
Programming concepts		Nested selection Nested iteration
Input/output	Read/write to comma separated files	Casting
String handling	Case conversion	Concatenation
Structured programming	Global variables	Advantages of using subprograms Advantages and disadvantages of the structured approach Use of modularised programming and documented interfaces
Robust programming	Run time errors Pattern checks	

## AQA Paper 2 – Computing concepts

## Fundamentals of data representation

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Units of information	Bit, nibble, byte, kibibyte, mebibyte, gibibyte, tebibyte	Bit, nibble, byte, kilobyte, megabyte, gigabyte, terabyte
Converting between number bases	Two's complement of signed integers Convert between denary and 8-bit binary for signed integers	Convert between denary and hexadecimal
Binary arithmetic		Add together up to <b>three</b> binary numbers (max. three 1s in a column)
Character encoding		Convert between 7-bit ASCII code and character and back Unicode
Representing images		Convert binary to bitmap and back
Data compression		Huffman trees Run length encoding

## Computer systems

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Boolean logic		XOR Create, complete and edit logic diagrams
Hardware		Define hardware
Software classification	Utility software File repair Backup Audit trails Code reviews	Define software System software Application software
Classification of programming languages and translators		Machine code v assembly language Assembler

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Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Systems architecture	Von Neumann stored program concept Optical storage	Effects on performance (clock speed, cache size, number of cores) Difference between RAM and ROM Differences between main memory and secondary storage

### Fundamentals of computer networks

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Types of networks		Personal area network
Network performance	Routers Latency Bandwidth Kilobit, megabit, gigabit Construct expressions for transmission rate and time	
Network topologies	Bus, star and mesh topology	
Network protocols	Ethernet, Wi-Fi, FTP, POP3 protocols	Which layer the protocols operate at
Network security	Physical security	

### Cyber security

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Malware	Worms, ransomware, key loggers	
Methods of detection/prevention	Encryption Acceptable use policy Backup and recovery	Spyware Removable media Weak or default passwords MAC address filtering Biometrics CAPTCHA Email confirmation Automatic updates

## GCSE COMPUTER SCIENCE – 8525 – SWITCHING GUIDE: FROM PEARSON EDEXCEL

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Social engineering		Blagging Phishing Shouldering Pharming

### Relational databases and SQL

Topic	What you will no longer need to teach (Pearson Edexcel 1CP2)	What you will now teach (AQA 8525)
Relational databases and SQL		SQL to search for and insert data The concept of a database and relational database Record, field, data type, primary and foreign key

## AQA pseudo-code

At AQA, we use a consistent style of pseudo-code in all assessment material. This is clearly described in [Notes and guidance: Pseudo-code](#) which will ensure that, with enough preparation, learners will understand the syntax of the pseudo-code used in assessments. Learners do not have to use this style of pseudo-code in their own work or written assessments, although they are free to do so. The only direction to learners when answering questions or describing algorithms written in pseudo-code is that their code is clear, consistent and unambiguous. This resource may be updated as required and the latest version will always be available on our website. It is not confidential and can be freely shared with learners.

## Programming languages

- At AQA, we produce papers specific to C#, Python or VB.NET. Programming questions are always clear when the use of the specific language is required to answer them.
- Pearson Edexcel produces papers for Python.

## Helpful resources

- [AQA GCSE Computer Science specification](#).
- [AQA Professional Development](#): online live and on-demand training courses, including Mark scheme guidance and application and Preparing for next year, as well as courses on getting the most from your results with our Data Insights tool.
- [Teaching resources](#): including lesson activities, schemes of work, subject specific vocabulary and teaching guides as well as links to the approved textbooks.

For further support, contact us on [computerscience@aqa.org.uk](mailto:computerscience@aqa.org.uk)