

### Feedback so far....

"I think this is a great way to test the skills for paper 2."

"It's great that there's now a GCSE course for teachers and students who think practical programming should be externally assessed and count towards the final grade. The theory part of the spec has been clarified and simplified. I've been so impressed by how the Pearson Edexcel team have responded to teacher feedback to make this course as accessible as possible."

"Onscreen exam will suit out students and bridge the gap to A Level much more successfully."

"It makes a lot of sense to assess programming ability by having students do actual programming."

"This qualification will attract those centres who wanted a realistic programming experience."

"Brave move going with onscreen! A step in the right direction for sure. Good choice with Python, well done! You are certainly breaking new ground."

"The on-screen assessment approach will prepare students well for eventual employment because it gives an opportunity for the learner to be assessed on writing, testing, and refining programs in an IDE using Python 3. Being given two hours to complete a task also relates well to the real life time constraints experienced by many Computer Scientists."

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## Pearson Edexcel GCSE (9-1) in Computer Science 2020



### Launch event



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### Agenda

- New requirements for Computer Science 2020
- Our approach
- Overview of our new qualification
- Break
- Our content
- Our assessment
- Our support offer
- Next steps

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## New requirements and our approach

Programming skills to be assessed under examination conditions for first teaching 2020 and first assessment 2022\*.

Our approach was to:

### 1. improve the assessment experience

- reduced number of marks and assessment time
- simplified language
- reduce number of command words
- less extended-open-response questions
- scaffolding added to essay-style extended open-response questions (see Paper 1 question 4(e)).

\* last assessment for the 2016 qualification (1CP1) will be 2021 (no resit opportunity in 2022)

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## Our approach continued

### 2. Provide students with a rounded experience of computer science

- developing skills relevant to the future by combining and balancing theory and practical application
- practical approach to developing computational skills through innovative, practical onscreen assessment
- practical focus on real-life programming
- schools choose which Integrated Development Environment (IDE) to use so students build their practical skills and experience by programming in a familiar environment.
- one programming language - Python.

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## A bold brave change...



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## Overview of our new qualification

	Content	Assessment
<b>Paper 1: Principles of Computer Science</b>	Topic 1: Computational thinking Topic 2: Data Topic 3: Computers Topic 4: Networks Topic 5: Issues and impact	75 marks Written examination: 1 hour 30 minutes 50% of the qualification
<b>Paper 2: Application of Computational Thinking</b>	Topic 6: Problem solving with programming. The main focus of this paper is: <ul style="list-style-type: none"> <li>Algorithms -what they are, what they are used for and how they work in relation to creating programs</li> <li>decompose and analyse problems</li> <li>read, write, refine and evaluate programs.</li> </ul>	75 marks Practical on-screen examination: 2 hours 50% of the qualification

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## Content

- Our subject content has been clarified and simplified. We have defined what content to teach for each paper making it easier for you to prepare your students for the exams.
- Paper 1 will assess Topics 1-5 and Paper 2 will assess Topic 6.
- We have clarified the use of units - base-2 units to express file sizes and data capacity and base-10 units to specify data transfer rates.
- We have a new section on cyber security.
- Your students no longer need to learn Haggis pseudocode.
- Our Getting Started Guide (available on the web at the end of March) will clarify the breadth and depth you need to teach each topic - see an extract of that guide for topic 6 in your pack.

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## Assessment Principles

	Paper 1	Paper 2
Ramped demand within papers and across the assessments	✓	✓
Command words linked to particular skills and mark tariffs (see pages 27-28 of the spec). These have been condensed/slimmed down, so now there are specific command words for each paper.	✓	✓
Clear and consistent levels-based mark schemes	✓	✓
Knowledge and understanding of key principles and concepts	✓	
Application of key principles and concepts; being able to analyse problems computationally		✓
Onscreen, with the use of your favoured Integrated Development Environment (IDE) to write and amend programs in response to the questions.		✓

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### ... assessment principles *continued*

Paper 1 has a range of item types.

Item Type	Proportion of assessment (out of 75 marks)
MCQ	around 5% or 4 marks
Short Open Response	around 20% or 15 marks
Medium Open Response	around 25% or 20 marks
Computer related Mathematics	around 20% or 15 marks
Completing tables/Diagrams	around 20% or 15 marks
Extended open (LBMS)	around 10% or 6 marks

Paper 2 is entirely composed of practical programming.

- \*.txt files and \*.py files only



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### Paper 1

Key changes to our assessment:

- Reduced set of command words
  - 13 command words with mark tariffs
- One command word per question
- One question per topic
- Simplified language



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### Paper 2

Key changes to assessment:

- The paper is 2 hours and consists of six compulsory questions.
- The questions are practical in nature and require students to design, write, test and refine programs in order to solve problems.
- Students complete this assessment onscreen using their Integrated Development Environment (IDE) of choice.
- Coding files (possibly including a text file) and the Programming Language Subset (PLS) document will be provided in digital form
- A hard copy of the question paper, and the Programming Language Subset (PLS) document will be provided
- All questions to be answered onscreen using Python 3.
- No internet access required/permitted.
- Two question types – either to **amend** a given piece of code or to **write** code.

Demo - [Link to Tim's video](#)



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## Paper 2 continued

### Connections and setup (referenced in the ICE and the FAQs)

- What if I can't get the onscreen assessment on the school network?
- What if the school's internet connection goes down?
- What if the school network goes down?
- My Exams Officer isn't a computer scientist – will it be difficult to set up and run?

### Logistics

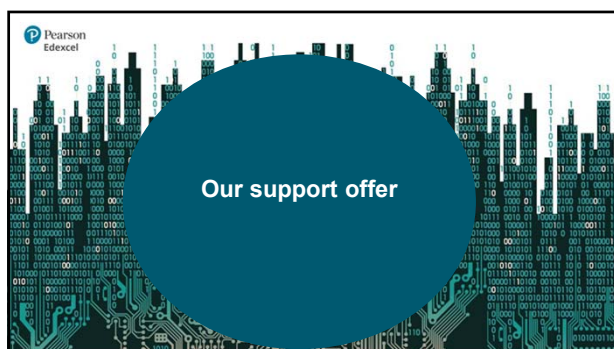
- What distance do computers have to be from each other and how do I ensure we meet the conditions?
- How will I fit all of my students into the ICT suite/computer classroom for exam conditions?
- Can we run the exam in two or more sittings (a window of assessment) and how would this work?



[ICE](#) [Further FAQ's](#)

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Getting Ready to Teach events May/June 2020			
<b>Getting Started guide</b> detailed guidance on the specification and assessment February 2020	<b>Editable Scheme of Work</b> That underpins the Interactive SoW March 2020	<b>Specimen Papers</b> 3 complete sets 1 set for Sept 2020 2 sets for Sept 2021	<b>Exemplar student work and examiner commentaries</b> generated from students September 2020
<b>Progression Guide</b> outlining how our new GCSE Computer Science progresses on AQA and OCR A level and our L3 BTEC Nationals			
<b>Exam Wizard</b> for building practice papers and mocks <b>ResultsPlus</b> for tracking student progress for GCSE <b>Access to scripts</b> provides visibility and transparency of marking			
<b>Subject Advisor support from Tim Brady</b>			

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**Interactive SoW**  
*April 2020 and Sept 2020*  
 wealth of content from Pearson Edexcel, NCCE and other resource providers.  
 Edexcel's recommended order of teaching and approved resources, especially useful for non-specialists.

[Maths Demo](#)

<b>Practical programming activities and solutions</b> theory and practical	<b>Real world case studies</b> from industry partners, video and downloadables	<b>Boot Up teacher guidance</b> creative ideas and resources for practical programming lessons
<b>Student book 2.0</b> <i>June 2020</i>	<b>Revision guide 2.0</b> <i>February 2021</i>	<b>Revision workbook 2.0</b> <i>February 2021</i>

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**Interactive scheme of work**

Our brand new, free, interactive scheme of work supports the new practical approach and assessment requirements of GCSE Computer Science, and brings the content alive by showing Computer Science in action.

The interactive scheme of work:

- recommends a **practical teaching route** and can be customised as much or as little as you want to support your level of **specialism**
- will save you time and effort in identifying the best resources, where best to use it in the classroom and how to get the most impact from them
- contains:
  - lesson plans, activities and solutions** that have been written for the specification
  - a wealth of resources to support teaching **Python** that have been designed for you and for your students
  - specific links to high quality resources from leading pedagogical and industry organisations in Computer Science that have been chosen to support our new qualification's practical approach including NCCE's resource repository, Microsoft's Make Code, CraigNDave's YouTube resources and many more.

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**GCSE Computer Science student book**

Our brand new Pearson Edexcel GCSE Computer Science Student Book\* **follows the practical teaching and learning approach** of the interactive scheme of work and provides all of the content, activities and exam support that you need to deliver the specification meaning you have everything in one place, including:

- practical activities** for programming that follow the PRIMM pedagogy.
- real world** examples and case studies of **Computer Science in Action** help to make the content more relevant and inspiring to all of your students.
- worked examples and activities using **the PLS** or 'Programming Language Subset' (Python) for a simple and comprehensive approach to programming.
- exam questions using only the Edexcel command words so that exam preparation is concise and productive.
- simplified content to make it as accessible as possible.

Plus much more

\*You don't have to purchase any resources, including those from Pearson, to deliver our qualifications.

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## Next steps

- Sign up to monthly updates from our Subject Advisor Tim Brady - <https://qualifications.pearson.com/en/forms/subject-advisor-updates-for-teachers-and-tutors.html> to receive updates and any key dates.
- [Pearson Computer Science Community](#)
- Follow us on Twitter [@Pearson\\_CS](#)
- Collaborate with colleagues on Facebook [GCSE Computer Science Facebook group](#)

**Need to talk to us the please contact us at:**

<https://support.pearson.com/uk/s/qualification-contactus>

- UK: 0333 016 4160/ International: +44 (0) 333 016 4160



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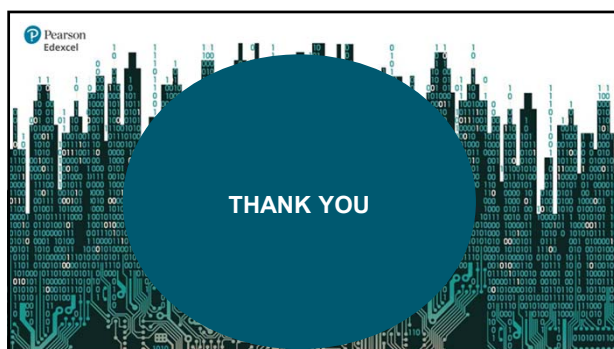
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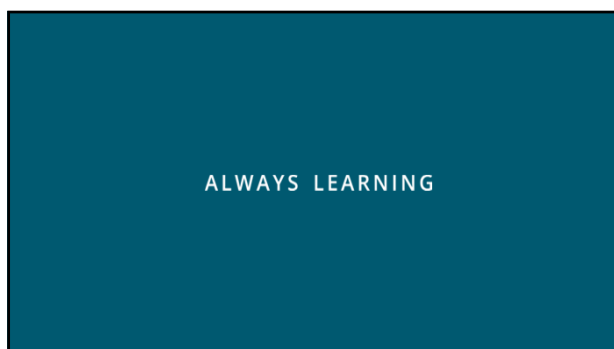
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