This guide is for students, parents and carers. It outlines: Information about the GCSE course; the topics on each examination paper and where students can find revision resources; and ends with examination tips specific to this subject.

**Course Title and Exam Board**

|  |  |
| --- | --- |
| Exam board | OCR |
| Course title | GCSE (9-1) Computer Science  |
| Course structure and assessment | Component | Marks | Duration | Weighting |
| Computer systems (01) | 80 | 1 hour 30 mins | 50% |
| Computational thinking, algorithms and programming (02)\* | 80 | 1 hour 30 mins | 50% |
| Key dates | Friday 15 February | Deadline for the Programming Project |
| Monday 15 May | Paper 1: Computer Systems |
| Wednesday 17 May | Paper 2: Computational Thinking, algorithms and programming. |

**GCSE Examinations**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Paper | Marks | Duration | Weighting | Topics on this paper |
| Computer Systems | 80 | 1½ Hours | 50% | * Systems Architecture
* Memory
* Storage
* Wired and wireless networks
* Network topologies, protocols and layers
* System security
* System software
* • Ethical, legal, cultural and environmental concerns
 |
| Computational thinking, algorithms and programming | 80 | 1½ Hours | 50% | * Algorithms \*
* Programming techniques
* Producing robust programs
* Computational logic
* Translators and facilities of languages
* • Data representation
 |

**Course Components (a more detailed explanation of skills and topics)**

#### Component 01: Computer systems

* Introduces students to the central processing unit (CPU), computer memory and storage, wired and wireless networks, network topologies, system security and system software. It also looks at ethical, legal, cultural and environmental concerns associated with computer science.

#### Component 02: Computational thinking, algorithms and programming

* Students apply knowledge and understanding gained in component 01. They develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic, translators and data representation. The skills and knowledge developed within this component will support the learner when completing the Programming Project.

**Programming Project**

* Students use OCR Programming Project tasks to develop their practical ability in the skills developed in components 01 and 02. They will have the opportunity to define success criteria from a given problem, and then create suitable algorithms to achieve the success criteria. Students then code their solutions in a suitable programming language, and check its functionality using a suitable and documented test plan. Finally they will evaluate the success of their solution and reflect on potential developments for the future.
* Students should be offered 20 hours timetabled time to complete their Programming Project. The Programming Project does not count towards a candidate’s final grade, but is a requirement of the course.

**What resources to use**

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| --- | --- |
| Revision topics |  What resources to use |
| Useful Websites: | **BBC Bitesize - excellent tried and trusted resource** Covers both Paper 1 and Paper 2 content, with quizzes.<https://www.bbc.com/bitesize/subjects/z34k7ty>   Cambridge Computing Online<https://www.cambridgegcsecomputing.org/register-as-a-learner> **You Tube Resources** Craig and Dave (You Tube) - playlist giving full coverage of both components. Playlist is called GCSE OCR Video.<https://www.youtube.com/channel/UC0HzEBLlJxlrwBAHJ5S9JQg/playlists?shelf_id=9&view=50&sort=dd>  Computer Science Tutor (You Tube) - playlists giving full coverage of both components for OCR. Each playlist also includes a full walkthrough for each exam paper. Both videos are 40m each but are worth watching either in one sitting or in sections to get an idea as to what to expectPaper 1: Computer Systems<https://www.youtube.com/watch?v=uMDQiZg8rWE&list=PL04uZ7242_M60Z2F8qV7sId99cuwV_Z3T>  Paper 2: Computational Thinking, Algorithms and Programming<https://www.youtube.com/watch?v=uMDQiZg8rWE&list=PL04uZ7242_M5KsKU1axzQ20dl4ZvYHPZn>  |
| Endorsed Books: |  GCSE OCR Computer Science – The Revision Guide.GCSE OCR Computer Science – Exam Practice Workbook[GCSE Computer Science for OCR Student Book](http://www.cambridge.org/ukschools/subjects/computer-science/gcse-computer-science/ocr/)**Author:**David Waller (Author) and Ann Weidmann (Course consultant)**ISBN:**9781316504031**Publisher:**Cambridge University Press**Date:**April 2016[OCR GCSE (9-1) Computer Science](http://pgonline.co.uk/resources/gcse/gcse-ocr/gcse-ocr-computer-science-j276/)**Author:** S Robson and PM Heathcote**ISBN:** 9781910523087**Publisher:** PG Online**Date:** June 2016 |

**Three Examination Tips Specific to this Subject**

* Answer questions in proper sentences and paragraphs.
* **Do not** use bullet points.
* If the question has lines beneath you must write pseudocode.
* Take a rubber to keep any drawn flow charts tidy.