Computer Science

Level of Qualification

Summer series 2022. Computer Science GCSE certificate graded 9-1

Specification code: J277

Examination Board

OCR

Course Aims

The Computer Science qualification will, above all else, be relevant to the modern and changing world of computer technology. Computer Science is a practical subject where learners can apply the knowledge and skills learned in the classroom to real-world problems.

It is an intensely creative subject that involves invention and excitement. The Computer Science qualification will value computational thinking, helping learners to develop the skills to solve problems and design systems that do so.

Course Content

Component 1 – Computer Systems

The first component is an exam focused on computer systems covering the physical elements of computer science and the associated theory.

Component 2 – Computational Thinking, Algorithms and Programming:

This component is focused on the core theory of computer science and the application of computer science principles.

Component 3 – Programming Project (non-exam)

This component is where candidates will be challenged by a range of exciting and engaging tasks to apply the knowledge and skills they have learned.

Method of Assessment

The assessment consists of two written examinations and a programming project.

Component 1:

Computer Systems

Systems architecture

Memory

Storage

Wired and wireless networks

Network topologies, protocols, and

layers

Network security

System software

Ethical, social, legal, cultural, and

environmental concerns

80 marks, 1.5 hrs

Component 2:

Computational Thinking, Algorithms,

and Programming

Translators and facilities of languages

Algorithms

High- and low-level programming

Computational logic

Data representation

80 marks, 1.5 hrs

Both papers will contribute towards 100% of the total GCSE

Component 3:

Programming Project

Programming techniques

Design

Development

Effectiveness and efficiency

Technical understanding

Testing, evaluation, and conclusion

40 marks, Approx. 20 hours

Percentage of Exam and Coursework Portfolio

Following a consultation at the end of 2017, Ofqual confirmed non-exam assessment tasks will not count towards the grades of all new GCSE (9-1) Computer Science qualifications. This applies with immediate effect. Results will be issued in 2018 and onwards based on students’ performance in summer exams alone. Students are still required to complete one ‘Programming’ task as part of the course but a number of the rules no longer apply. Further information will be given to students in due course.

Associated Careers/Progression

These skills will be the best preparation for learners who want to go on to study Computer Science at A Level and beyond. The qualification will also provide a good grounding for other subject areas that require advanced analytical skills.

Literacy / Numeracy Demands

Computer science requires students to demonstrate very high levels of logical thinking to solve complex computational problems.

20% of the proposed exam papers will include marks for literacy and use of technical language.