COMPUTER SCIENCE

OCR EXAMINING BOARD (gcse 9 – 1)

Almost every career in the future will have an element of computing involved, whether

it is digital doctors or GPS farmers. The more knowledge you have, the more control you

will have and the more jobs will be available to you at higher salaries.

CONTENT

The new OCR GCSE Computer Science specification has taken the best elements from the extremely successful GCSE Computing specification and modernised and reformed it. The Computer Science qualification will, above all else, be relevant to the modern and changing world of 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 a creative subject

that involves invention and excitement. This qualification will value computational thinking, helping learners to develop the skills to solve problems and design systems that do so.

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 problem solving and analytical skills, subjects such as Engineering

and Science. Computational thinking is, in essence, the ability to think about any problem logically, compare to previous experience and develop a solution; it is not simply instructions and actions. Computational thinkers are able to see algorithms, processes and data and know how to then implement them in their chosen language.

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.

• Systems architecture

• Memory, storage and data representation

• Computer networks, connections and protocols

• Network security

• System software

• Ethical, legal, cultural and environmental impacts of digital technology

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.

• Algorithms

• Programming techniques

• Producing robust programs

• Boolean logic

• Programming languages and integrated development environments

Assessment

Component 1:

1 1⁄2 hour paper

Mix of long and short answer questions

80 marks

50% overall GCSE

Component 2:

1 1⁄2 hour paper

Mix of long and short answer questions

80 marks

50% overall GCSE

OTHER INFORMATION

Students wishing to study Computer Science need to have a target grade of at least grade 4, or be consistently achieving grade 4 or above on assessments, in Year 9. Students will be given time to carry out a reasonable programming project. A keen interest in computing and technology and some interest in or experience of programming would be beneficial.