The OCR GCSE in Computer Science (9-1) is engaging and practical, encouraging creativity and problem solving. It encourages students to develop their understanding and application of the core concepts in computer science. Students also analyse problems in computational terms and devise creative solutions by designing, writing, testing and evaluating programs.

Don’t buy the next great game… Design it.

Don’t just download apps… Build them.

‘Choose Computer Science’ YouTube Video

Content:

The content covered involves a range of topics addressing computer systems and networks through to how computers works. Interweaved with this is the necessity to program and develop bespoke pieces of code.

Computer Systems

Systems Architecture, CPU Architecture; Performance; and embedded systems

Memory and storage; compression

Computers networks, connections and protocols; wired and wireless systems

Network security; threats and prevention

Systems software comprising the operating system and utility software

Ethical, legal, cultural and environmental impacts of digital technology

Computational Thinking, algorithms and programming

Computational thinking; algorithms; searching and sorting algorithms

Programming fundamentals; data types; programming techniques

Producing robust programs; defensive design; verification

Boolean logic

Programming languages and Integrated Development Environments

Skills That You Will Develop Include:

Further to the understanding of computer systems, you will develop key skill of computational thinking. This comprises of the ability to understand and decompose a problem or necessity into parts, remove superfluous detail through abstraction and then develop the parts of the solution independently to achieve the goal required. You will work independently as well as working in agile pair coding; developing your soft skills in teamwork and review or someone else’s work.

Attention to detail is vital. Having an eye for small details can have a huge impact on the success of a line of code.

Whilst programming is an essential classroom activity, there is no coursework for this qualification. Pupils are expected to understand OCR Exam Reference Language pseudo code.

Careers and Further Study:

Computer science is an increasingly popular field, and with good reason. Society has come to depend on the technology created by this industry to fulfil the tasks of daily life, resulting in both exciting career opportunities and above-average salaries for individuals who pursue a computer science career.

While the job outlook remains incredibly positive, the evolution of the computer science field over the last few decades has created a demand for professionals with more than just the basic coding skills. Now, people looking for success must have a strong combination of technical skills as well as soft skills unique to this specific sector. This course aims to address both needs.

Nearly all careers will benefit immediately from an understanding of computer systems as well as computational thinking. Careers that can be access with Computer Science GCSE as a base for further studies include but are not limited to:

Cybersecurity

Data Analyst

Media/graphics designer

Game Developer

Software Developer

Artificial Intelligence

Robotics