COMPUTER SCIENCE

COURSE OVERVIEW

Whether its millions of lines of code of clever app design, computer scientists are the architects of our online lives. The study of computer science involves how computer systems work, from the physical components (hardware) to the apps and programmes that users interact with (software). You will also learn how to create, update and manipulate computer systems by learning a number of programming languages – the code behind the software we interact with as users.

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.

Paper 1 focuses on the practical aspects of Computer Science, demonstrating knowledge and understanding of the key concepts and principles of computer science. It focuses on programming language structures and coding. The content of this paper will be where your programming knowledge and skills will be assessed.

Paper 2 is based on the theoretical aspects of Computer Science, such as networking and communication protocols, encryption and cyber security, ethics and the legal implications of technological development as well as how computers work at a fundamental level, both in terms of hardware and software. It also includes data representation of text, images and sound using binary and hexadecimal.

KNOWLEDGE & SKILLS DEVELOPED

The qualification will also provide a good grounding for other subject areas that require computational thinking and analytical skills. If you enjoy programming/ coding, game making and problem solving, or are keen to learn, then this is the course for you.

You need to have a desire to challenge yourself and not get frustrated when it all goes wrong (which it will!). Being good at Maths and being able to think logically and work methodically through a problem are key skills you will require.

You will develop your problem solving, mathematical, data analysis, creativity and logical thinking skills, all of which are valued in the workplace.

Qualification: GCSE

Awarding Body: AQA

ASSESSMENT METHOD

Examination and coursework.

Two examinations

PAPER 1

Written paper worth 50% - Computational thinking and problem solving – 1 hour 30 minutes exam.

PAPER 2

Written paper worth 50% - Theoretical knowledge – 1 hour 30 minutes exam.

POST 16 OPPORTUNITIES AND CAREERS

After successful completion of this course many students will go on to do an A Level in Computer Science and then onto university to do a related degree course.

A recent report expects 90% of jobs will involve Computer Science/ICT in some form or another. Computer science gives you the technical know-how needed to pursue careers in computer programming, website or app development, video game development and cyber security. But because it hones you logical thinking and problem solving skills, computer science is useful in a whole range of other careers too. This course will give a good insight into a variety of different jobs that you might be considering, such as careers as a Database Administrator, Systems Analyst, Computer Programmer or Software Developer - just to name a few.

> "Computer science is a lot of fun on the coding side, but you need to work hard on the theory side as well."