

# Computer Science

## GCSE

### Course outline

The course provides students with a real, in-depth understanding of how computer technology works. Students will no doubt be familiar with the use of computers and other related technology from their Computer Science lessons and elsewhere. However, the course will give them an insight into what goes on 'behind the scenes'. There is an emphasis on computer programming using the Python programming language, and computational thinking which will equip students with the necessary skills required to succeed in many other areas. These skills include independent learning, problem solving and the ability to think creatively, innovatively and logically to design and program solutions to real-world problems.

Students will investigate the components that make up digital systems and how they communicate with one another and with other systems, they will also develop an understanding of the impacts of digital technology to the individual and to wider society.

### How is the course assessed?

Computer Systems - 100% Examination - Two 90 minute written paper examining students' knowledge of computer systems.

Unit 1 –Computer Systems – 50%. The paper includes short and long answer questions covering the physical elements of computer science such as computer hardware, wired and wireless networks, system security and software. The paper also covers the social, legal and environmental effects of computer systems.

Unit 2 - Computational thinking, algorithms and programming - 50% - A 90 minute exam testing students' knowledge of program design and creation. The paper covers data representation in computer systems, logical problem solving and high and low level programming.

### You will do well on this course if...

You enjoy solving puzzles and are an independent thinker who is capable of working as an individual or as part of a team. You should also have an enquiring mind combined with good English and you must be predicted to achieve at least Level 5 in Maths.

### Next steps on pathway

#### Sixth Form Course

A level Computer Science will stretch your programming abilities and enhance your computational thinking skills in conjunction with building up a deeper understanding of the underlying concepts.

#### Employment pathway

Employees with Computer Science based skills are highly sought after in industry and are in short supply. There are many ways of accessing technical careers Including apprenticeships and more traditional academic routes.

