What can you achieve?

GCSE grades 9-1

Course content

Computer Science is an engaging and practical subject, encouraging creativity and problem solving. It encourages you to develop their understanding and application of the core concepts in computer science. You will analyse problems using computational terms and devise creative solutions by designing, writing, testing and evaluating programs.

How will you be assessed?

You will be assessed via two 1 ½ hour exams at the end of the course in year 11. Both the exams are equally weighted at 50% each.

Component 01: Computer systems

This unit introduces you to learn about the central processing unit (CPU), computer memory, storage, data representation, wired and wireless networks, network topologies, system security and system software. You will also look at the ethical, legal, cultural and environmental concerns associated with computer science / technology in the modern world.

Component 02: Computational thinking, algorithms and programming In this unit you will apply the knowledge and understanding that you learn in component 01. You will then develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic and translators to name a few.

Practical programming

Throughout the course, students are to be given the opportunity to undertake a programming task(s) during their course of study which allows them to develop their skills to design, write, test and refine programs using a high-level programming language. You will be assessed on these skills during the written examinations.

This course will encourage you to:

Understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation

Analyse programming challenges through practical experience, including designing, writing and debugging computer code.

Encourage you to think creatively, innovatively, analytically, logically and critically

Understand the key components that make up computer systems, and how they communicate with one another and with other parts of the computer

Understand the impacts of digital technology has on individuals and to wider society

Apply mathematical skills relevant to Computer Science. – This is why we ask for a grade 6 or higher target in maths. 15

You will succeed on this course if you:

- You have a keen interest in computers and how they work

- You enjoy completing practical programming tasks

- You like working independently both offline and online

- You are happy to work hard at analysis and problem solving

- You enjoy being tested on the edge of your knowledge and like to be challenged further

Note that this is an academically challenging and demanding course, most suitable for students who have a target grade of 6 or above in maths.