Grade 3+ or higher in Maths at Autumn term Year 9 is required for this course

Course overview:

In component 1 students study how processors work and investigate computer memory and storage. This knowledge helps to explore modern network layouts and how they function and ultimately build skills in the ever important realm of cyber security. Students investigate types of software and how computing affects ethical, legal, cultural and environmental issues. Component 2 considers the fundamental algorithms in computer science. Students develop a foundation in programming techniques. These techniques are used to produce programs and thoroughly test them to make them resistant to misuse.

Running alongside component 2, a 20 hour independent coding project, solving a real-world problem is tackled to develop skills in designing, writing and testing programs. The project is carried out under exam-like conditions at the start of year 11, spanning several weeks.

Post-16 progression:

AS Level Computer Science

A Level Computer Science

IT Level 3 or Digital Media Level 3

It also provides a good grounding for other subject areas that require problem solving and analytical skills.

Example career paths:

Web developer

Software architect

Game designer

Computer security

Why study this subject?

Computer Science is a very practical subject – students will be able to use the knowledge and skills they learn in the classroom on real-world problems. It’s also a highly creative subject that calls on learners to be inventive. Students gain valuable thinking and programming skills that are extremely attractive in the modern workplace. The syllabus encourages a deep understanding of problem solving and experience in creating logical and efficient solutions to computing problems. Students will develop an ability to write down solutions to problems for other people to understand. The course provides a good grounding in mainstream computing theory and understanding