Computer Science

Optional Subject

Edexcel Examination board

Why study computing ?

This course will help you to develop critical thinking, analysis and problem solving skills. These skills can be transferred to other subjects and even applied in day to day life. If you want to go on to a higher study and employment in the field of Computer Science then this course will provide a sound, underpinning knowledge of this subject.

Course description

This is a course that has a real relevance in our modern world. It will give students an in depth understanding of how computer technology works. They will study Computational Thinking which will provide them with an understanding of what algorithms are, what they are used for and how they work; an ability to follow, amend and write algorithms and an ability to construct truth tables. Topic 2 covers data which will build on their understanding of binary, data representation, data storage and compression. In Topic 3, students will gain an understanding of computer systems in terms of hardware and software and the characteristics of programming languages. Networks is covered in Topic 4 and Topic 5 deals with the issues and impacts of computing technologies on individuals, society and the environment. Finally, topic 6 deals with problem solving and programming.

They will also acquire and apply creative and technical skills, knowledge and understanding of programming in a range of contexts. Students will develop computer programs to solve problems, evaluate the effectiveness of their solutions and their impact of computer technology on society.

Student Criteria

This course is suitable for students that have a keen interest in programming and computational thinking. Students should be academically able, have good skills in English and a minimum predicted GCSE Mathematics grade 6+ is desirable.

Assessment

Paper 1: Principles of Computer Science
A written examination coving computational thinking, data, computers (hardware and software), networks and the issues and Impact of computing technologies.

Paper 2: Application of Computational Thinking.
An onscreen examination covering problem solving with programming.

Work Hard : Be Nice : No Excuses