



COMPUTER SCIENCE

DETAILS OF COURSE AND ASSESSMENT:

You should choose “**Computer Science**” if you wish to go on to higher education courses or employment where knowledge of Computing would be beneficial. “Computer Science” is not to be confused with “Information and Communication Technology (ICT)” or BTEC IT courses. In addition to studying the use of computer software application of IT courses, you must also ‘*lift the lid*’ on a computer, and develop a technical understanding of how computer components work. Practical aspects of the course include **programming** and **problem solving** by working as a ‘Systems Analyst’. Therefore, the course is not just about learning to use IT tools and developing your practical skills, but “**computational thinking**” and the abstract mathematics of how a computer works. Computational thinking is a kind of reasoning used by both humans and machines and is an important life skill.

The course consists of four mandatory units:

AS Level (H046)

Comp. 01 – Computing principles

(1hour and 15 minutes written examination – 50% of total AS marks)

Comp. 02 – Algorithms and problem solving

(1hour and 15 minutes written examination – 50% of total AS marks)

A Level (H446)

Comp. 01 – Computer Systems

(2 ½ hours written examination – 40% of total marks)

Comp. 02 – Algorithms and Programming

(2 ½ hours written examination – 40% of total marks)

Comp. 03 – Programming Project

(Centre assessed Project – 20% of total marks)



QUALITIES AND COMMITMENT EXPECTED FROM THE STUDENT:

Even though it is not necessary for students to have studied IT/Computing at GCSE level, they must have a **very** keen and lively interest in computing and computer science. Students will need a logical mind with a persistent and methodical approach to solving problems and writing computer programs. All students will be expect to do additional reading outside of lesson times to help develop a wider understanding of the applications of computers and the effects of their use. Students will also need to be committed to independently developing their programming skills outside of lesson times.

THE FUTURE:

If students wish to study a Computer Science, Electrical Engineering or Business IT Systems degrees, this course will give them a great advantage, especially in their first year of studies, a time when programming is often introduced. A Level Computer Science is a much respected qualification among employers, as many jobs require an understanding of computer systems; which is an ever-expanding area of the employment market. Global companies such as Microsoft and Google are actively sponsoring and recruiting Computer Science graduates as the future development of IT technologies and software requires new, well trained and creative, motivated, problem solvers and programmers.