Computer Science

FAQs

Do I need to have a GCSE in Computer Science?

This is highly recommended or at least a GCSE in ICT. You need to have a breakdown in computing programming and be a logical problem solver.

Computer Science integrates well with subjects across the curriculum. It demands both **logical discipline** and **imaginative creativity** in the selection and design of algorithms and the writing, testing and debugging of programs;

- it relies on an understanding of the rules of language at a fundamental level;

- it encourages an awareness of the management and organisation of computer systems;

- it extends the learners' horizons beyond the school environment in the appreciation of the effects of Computer Science on society and individuals.

For these reasons, Computer Science is as relevant to a learner studying arts subjects as it is to one studying science subjects.

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What grade do I need at GCSE Computer Science to take it at A level?

A minimum of a grade 7 is recommended.

Course Details:

Component 1 -Theory of Computers (Exam) (40%)

This component is an examined unit which comprises of the characteristics of modern day computers. It looks specifically at contemporary processors, input, output and storage devices, software and software development, exchanging data, data types, data structures and algorithms and legal, moral, cultural and ethical issues such as Artificial Intelligence that have an impact on modern day society.

Component 2 -Algorithms & Problem Solving (Exam) (40%)

This component is the other examined unit which focusses primarily on elements of computational thinking. Students also explore programming and problem solving, pattern recognition, abstraction and decomposition, algorithm design and efficiency and standard algorithms using mathematical techniques such as the Big O theory.

Component 3 -Individual Project (Practical) (20%)

This component is a practical unit whereby candidates discuss, investigate, design, prototype, refine, implement, test and evaluate a computerised solution to a problem. The problem is chosen by the candidate which must be solved using original code (programming). Examples of past projects include Apps, Games, Smart Technology and even a Smart Mirror designed to broadcast latest news updates onto a standard household mirror.

FAQs

Is Computer Science at A Level hard?

There are many challenging elements and topics of A level Computer Science that will push you.

However, if you have girt and really want to succeed you will.

Other Learning Opportunities:

· Opportunity to visit Bletchley Park—world computing museum where Alan Turing cracked the famous enigma machine
· Taking part in and helping to run computer club
· Developing a programming project of your choice with 'real life' clients outside of school

Where next with this course?

Computers are widely used in all aspects of business, industry, government, education, leisure and the home. In this increasingly technological age, a study of computer science, and particularly how computers are used in the solution of a variety of problems, is not only valuable to the learners themselves but also essential to the future well-being of the country.

For more information about courses that are available at Higham Lane Sixth Form, please visit our website