Computer Science

A Level Computer Science

A Level Computer Science is an exciting but demanding subject that will help you develop an analytical, problem-solving approach, which is sometimes called 'computational thinking'. The course will equip you with the fundamentals of problem-solving, which you will put into practice by developing computer programs. It is crucial that you spend time every week developing your programming skills outside lessons. In the second year of the course, you will undertake a significant programming project which you will choose yourself.

What will I study?

You will learn about the computer as an electronic device, and some of the core fundamentals of computing looking at the underlying theory and recent developments in this fast changing area You will also complete a computing project that is an internally assessed unit, where you will be required to complete a report on a computer-based programmed solution to a problem solving exercise of your choice.

Computer Systems - systems architecture; memory; storage; wired and wireless networks; network topologies, protocols and layers; network security; system software; moral, social, legal, cultural and environmental concerns.

Computational Thinking, Algorithms and Programming - translators and facilities of languages; algorithms; high- and low-level programming; computational logic; data representation.

Programming Project - programming techniques; design; development; effectiveness and efficiency; technical understanding; testing, evaluation and conclusions.

How will I be assessed?

A Level Computer Science is assessed through two written exams, each worth 40% and a Programming Project worth 20%.
This qualification can be picked as an AS Level through two written exams, each worth 50% where you would cover Computing Principles and Algorithms and problem solving.

Entry Requirements

Grade 6 or above in GCSE Computer Science. *If you **did not** study GCSE Computer Science, we recommend studying courses such as Maths, Further Maths or Physics alongside Computer Science at A-Level.*

Additionally, you need a Grade 6 or above in GCSE Maths.

Two further GCSEs at grade 5 or above

We recommend that you do some computer programming in Python, Java or C# to help you decide if the subject is right for you, as programming is a very large component of the course.

