Computer Science

A Level Computer Science

A Level Computer Science is an engaging yet challenging subject that promotes the development of analytical and problem-solving skills, often referred to as 'computational thinking.' This course provides a solid foundation in problem-solving, which you will apply by developing computer programs. It is essential to dedicate time each week to enhance your programming skills outside of lessons. In the second year, you will undertake a significant programming project of your own choosing.

What will I study?

You will explore the computer as an electronic device and delve into the core fundamentals of computing, examining both underlying theories and recent advancements in this rapidly evolving field. Additionally, you will complete a computing project, an internally assessed unit, where you will produce 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 language facilities; 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 accounting for 40% of the final grade, and a Programming Project worth 20%.

Entry Requirements

Grade 5 or above in GCSE Computer Science.

Additionally, you need a Grade 6 or above in GCSE Maths or Physics and five further GCSEs at grade 5 or above.

We recommend studying courses such as Maths, Further Maths or Physics alongside Computer Science at A-Level.

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.