

# Computer Science A Level

## Who is the course for?

The most important aspect of computer science is problem solving, an essential skill for life. You will study the design, development and analysis of software and hardware used to solve problems in a variety of business, scientific and social contexts.

Computer scientists theorise, design, develop, and apply the software and hardware for the programmes we use day in day out – so pretty important in the digital age.

## What does the course involve?

You should enjoy and be good at solving problems. Computing requires a logical mind-set and the ability to persevere and reflect on mistakes – no piece of software was ever written perfectly at the first time of asking! A lot of the concepts and constructs that need to be learnt require a high level of commitment and out of lesson study. The coursework element requires report writing and analysis skills. Your interest in Computer Science and Technology should extend to outside of the classroom in the form of independent research that leads to a broader understanding of how technology is developing and its impact on the world around us.

## Components include:

### Paper 1: Programming and System Development

This component investigates programs, data structures, algorithms, logic, programming methodologies and the impact of computer science on society. The on screen exam assesses your ability to understand, debug and program software code.

### Paper 2: Computer Architecture, Data, Communication and the Applications

This component investigates computer architecture, communication, data representation, organisation and structure of data, programs, algorithms and software applications.

### Component 3: Programmed Solution to a Problem

Candidates discuss, investigate, design, prototype, refine and implement, test and evaluate a computerised solution to a problem chosen by the candidate which must be solved using original code (programming). This is a substantial piece of work, undertaken over an extended period of time.

## Assessment Methods

A level Computer Science is assessed through 2 exams, paper 1 is an on-screen exam, paper 2 is a written exam both last 2 ½ hours and are worth 40% each of the course. There is also a non-examined assessment worth 20% of the final mark in the form of a programming project.

## Progression Options

Every industry uses computers so naturally computer scientists can work in any. Problems in science, engineering, health care, and so many other areas can be solved by computers. An A level in Computer science can open up a wide range of careers and higher education courses in many areas including Computer Science, Software Engineering, Forensic Computing, Robotics, Computer Systems Integration, Information communication technology, Business Information systems or many other specialist IT topics.

It can also help gain direct entry into employment particularly into IT support sectors.

## Awarding Body

AQA