

A Level Computer Science

What is the Computer Science?

Computer Science is a very large subject with lots of applications. Computer scientists design new software, solve computing problems and develop different ways to use technology. But, whatever they're doing, all computer scientists rely on '**computational thinking**'. Computational thinking involves looking at a problem and working out a way a computer might be able to help you solve it. To do this, you need to understand how a computer processes information; this is what you will be learning about in A Level Computer Science. Be aware, Computer Science is a difficult subject – you will need to work hard.

Why study Computer Science?

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. Because computers solve problems to serve people, there is a significant human side to Computer Science as well.

Top 3 reasons to study Computer Science:

1. Computing is part of **everything we do!**
2. Expertise in computing enables you to **solve complex, challenging problems**.
3. Computing offers many types of lucrative **careers** & computing jobs are here to stay.

What makes a successful Computer Science student?

Is Computer Science suitable for you? Yes, if you:

- ✓ Enjoy very challenging subjects; you will need to work hard and be a determined & resilient learner.
- ✓ Like solving problems
- ✓ Are logical and enjoy working with algorithms & code
- ✓ Enjoy Maths; this will be essential when programming functions and commands into computers
- ✓ Are able to learn from failure, then quickly move on – you must not give up easily when something doesn't work

To study this course, what qualifications will I need and in which subjects?

Students considering Computer Science should have at least grade 6 in GCSE Computing, GCSE Science and a grade 5 in GCSE Maths.

What is the structure of the course?

Y12	Y13
01 – Computing Principles	01 – Computer Systems
Assessment – Exam (1 hour 15 minutes)	Assessment - Exam (2 hours 30 minutes)
02 – Algorithms and problem solving	02 – Algorithms and programming
Assessment – Exam (1 hour 15 minutes)	Assessment - Coursework (2 hours 30 minutes)
	03/04 - Programming Project
	Controlled assessment

What kind of career does this subject/qualification prepare me for?

If you've studied Computer Science, you will have gained many **technical** and **non-technical skills** which are highly valued by employers, from **leadership** to **programming**. The increasing scope of Computer Science means you have plenty of choice in a wide variety of highly specialised areas. With computer technologies playing an ever growing role in all aspects of modern life, you're likely to find your computer science skills in high demand across many different industries. These include: financial organisations, management consultancy firms, software houses, communications companies, data warehouses, multinational companies (IT-related, financial services and others), governmental agencies, universities and hospitals.