



# Computer Science

## Why should I study GCSE Computer Science and what will I learn?

Computing is a 'Science' and as such is recognised as a high-quality academic subject and held in high regard by Colleges and Universities. Computational thinking skills can be applied in all your subjects and this course would be very suitable if you enjoy mathematics and physics, but also a keen interest in technology and engineering. The GCSE course is divided into two examinations and a non-examined assessment covering a wide range of topics:

**Component 1 - Year 10** (50%) will introduce the principles of Computer Science, covering:

- Ethics of computing
- Cyber security
- Computer architecture
- Computer networks
- Data and conversions
- Relational Databases and SQL

**Component 2 - Year 11** (50%) will introduce computational thinking and programming skills, focusing on:

- Decomposition and abstraction
- Algorithms and skills for programming
- Inputs, selection, routines, functions, list and writing to files
- Testing
- Classification of programming languages

## What future opportunities can this course lead to?

Students choosing this course will be well prepared to take an A level or equivalent Computer Science, Engineering or ICT qualification in the Post 16 Centre or other further education establishments. The skills developed in Computer Science would also support in a wide range of IT careers including Cyber Security and other science or maths based roles such as engineering.

## How will my work be assessed?

We aim to make lessons engaging and diverse through investigations, discussion, independent learning and group work. The course will be challenging with students needing a high level of patience and problem-solving skills to sift through code to overcome errors. Strengths in programming at KS3, maths and sciences are recommended for this course.

## Who can I speak to for more information?

For further information about Computing please speak to your Computing Teacher or contact [options@penistone-gs.uk](mailto:options@penistone-gs.uk).