

## What is the course about?

Studying computer science at A Level enables learners to develop an understanding of and ability to apply the fundamental principles and concepts of computer science including abstraction, decomposition, logic, algorithms and data representation. Computer science is a practical subject where learners can apply the academic principles learned in the classroom to real world systems.

### Course content

#### Computer Systems (01):

- Characteristics of contemporary processors, input, output and storage devices
- Software and software development
- Exchanging data
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues

#### Algorithms and Programming (02):

- Elements of computational thinking
- Problem solving and programming
- Algorithms to solve problems and standard algorithms

#### Programming Project (03):

- Students choose a computing problem to work through, covering:
  - Analysis of the problem
  - Design of the solution
  - Developing the solution
  - Evaluation

### Assessment

Two terminal examinations form 80% of the total.

1 Non-Examination Assessment worth 20%.

## Career pathways

Students can go on to study a computer science-related degree including a wide range of more focused options such as cyber security, software development etc.

Alternatively, students are able to progress directly to apprenticeships including for example software engineer, cyber security analyst, systems analyst, data scientist, database administrator, video game designer, artificial intelligence engineer.

## Entry criteria

Minimum of five 5 to 9 grades at GCSE, including at least grade 6 GCSE in Computer Science or Mathematics.