

# GCSE Computer Science

## Why study Computer Science?

This course will encourage you to:

- Analyse problems through practical experience including designing, writing and debugging programs
- Understand the components that make up digital systems, and how they communicate with one another and with other systems
- Understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms, and data representation
- Think creatively, innovatively, critically, logically and analytically
- Develop real world and transferable skills.



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## What will I study?

**Computer systems:** systems architecture, memory, storage, wired and wireless networks, network topologies, protocols and layers, system security, system software, ethical, legal, cultural and environmental concerns.

**Computational thinking, algorithms and programming:** algorithms, programming techniques, producing robust programs, computational logic, translators and facilities of languages, data representation.

**Programming project:** using the python programming language, programming techniques, analysis, design, development, testing, evaluation and conclusions.

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## How will Computer Science benefit me?

The course will enable you to develop valuable thinking and programming skills that are extremely attractive in the modern workplace, together with a deep understanding of computational thinking and how to apply it through a chosen programming language.

This course has been designed to seamlessly transition into IB Diploma computing, or A Level computer science.

### ASSESSMENT

Computer systems (01)

**Written paper:**  
(50% of GCSE)

Computational thinking, algorithms and programming (02)

**Written paper:**  
(50% of GCSE)