A Level Computer Science – Course Information

Exam board: OCR

What is A Level Computer Science?

OCR A Level Computer Science explores how computers work and software is created. You will study programming, algorithms, data, and architecture while building problem-solving skills. It prepares you for careers in tech, cybersecurity, and data science.

What does the course involve?

● Learning how computers process information and how programs are designed and implemented.
● Studying topics like algorithms, programming languages, data structures, and computer systems.
● Writing code, solving computational problems, and applying theory through practical programming tasks.

Entry Requirements:

GCSE Computer Science grade 5 or above

GCSE Maths Grade 6 or above

What components are studied?

Students study three components:
● Computer Systems – architecture, software, data, and technology's impact.
● Algorithms and Programming – problem-solving, computational thinking, and coding.
● Programming Project – design and build a real-world solution.

How is it assessed?

Assessment: Two written exams and one programming project at the end of Year 13:
• Paper 1: Computer Systems (40%)
• Paper 2: Algorithms and Programming (40%)
• Programming Project: Coursework (20%)
Each exam is 2 hours 30 minutes and tests knowledge, problem-solving, and analytical skills.

What are lessons like?

Lessons blend theory with hands-on coding and problem-solving. Students explore how computers work, learn key concepts such as algorithms, data structures, and computational thinking, and apply their knowledge through practical programming tasks. They code in languages like Python and tackle real algorithm challenges, helping them build strong technical skills while preparing for the exams and the NEA (coursework) programming project.

Where Can Computer Science Take You?

A Level Computer Science opens the door to an exciting range of future pathways. The course develops highly sought-after skills in programming, logical thinking, problem-solving, and data analysis, all of which are valued by universities and employers across many industries.

Students often progress to degree courses such as Computer Science, Artificial Intelligence, Cybersecurity, Software Engineering, Data Science, and Games Development. These skills can lead to careers in technology, software development, gaming, cybersecurity, finance, engineering, and cutting-edge research.

Computer Science equips you with the tools to shape the future; wherever you choose to go.

For more information about the course, please see Mr Shergill.