

COMPUTER SCIENCE



Level: 3

Exam Board: OCR

Specification: AS Level Computer Science – H046

Course description: AS Level Computer Science qualification enables students to develop their understanding of and ability to apply fundamental principles of computer science and develops their ability to apply them in real-life contexts. Students will also develop skills, and their ability to analyse problems and find creative solutions by using computational thinking.

Component 01: Computer systems

Students are introduced to the internal workings of the (CPU), data exchange, software development, data types and legal and ethical issues. The resulting knowledge and understanding will underpin their work in component 03. It covers:

- The characteristics of contemporary processors, input, output and storage devices
- Types of software and the different methodologies used to develop software
- Data exchange between different systems
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues.

Component 02: Algorithms and programming

This builds on component 01 to include computational thinking and problem-solving. It covers:

- What is meant by computational thinking (thinking abstractly, thinking ahead, thinking procedurally etc.)
- Problem solving and programming – how computers and programs can be used to solve problems
- Algorithms and how they can be used to describe and solve problems.

Component 03: Programming project

Students are expected to apply the principles of computational thinking to a practical coding programming project. They will analyse, design, develop, test, evaluate and document a program written in a suitable programming language. The project is designed to be independently chosen by the student and provides them with the flexibility to investigate projects within the diverse field of computer science. We support a wide and diverse range of languages.

Entry requirements: Minimum Level 2 (or equivalent) Computer Science Qualification at Grade 6 or above. Plus a minimum Grade 5 in both GCSE Maths and GCSE English.

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Cardinal Griffin Catholic College Sixth Form

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Career options: Software Engineer, Database Administrator, Computer Hardware Engineer, Computer Systems Analyst, Computer Network Architect, Web Developer, Information Security Analyst, Computer Programmer, Computer and Information Systems Manager, Project Manager.

Full Specification: <https://www.ocr.org.uk/qualifications/as-a-level-gce/computer-science-h046-h446-from-2015/#as-level>