

A Level Computer Science
(Eduqas Specification)

This academic course requires students to have strong problem solving skills, a logical mind, a genuine interest in computer programming and a willingness to learn and practise skills independently.

This course is designed to encourage students to develop:

- an understanding of, and the ability to apply, the fundamental principles and concepts of computer science, including abstraction, decomposition, logic, algorithms and data representation
- the ability to analyse problems in computational terms through practical experience of solving such problems, including writing programs to do so
- the capacity for thinking creatively, innovatively, analytically, logically and critically
- the capacity to see relationships between different aspects of computer science
- the ability to articulate the individual (moral), social (ethical), legal and cultural opportunities and risks of digital technology

The course consists of three components that will be studied over the two years that comprises of:

Component 1: Programming and system development.

This unit is assessed through a 2 hour and 45 minute written examination, and accounts for 40% of the qualification. This component investigates programs, data structures, algorithms, logic, programming methodologies and the impact of computer science on society.

Component 2: Computer Architecture, Data, Communication and Applications

This unit is assessed through a 2 hour and 45 minute written examination, and accounts for 40% of the qualification. This component investigates computer architecture, communication, data representation, organisation and structure of data, programs, algorithms and software applications.

Component 3: Programmed Solution to a Problem

This unit is assessed through a non-examined assessment, and accounts for 20% of the qualification. Students will discuss, investigate, design, prototype, refine and implement, test and evaluate a computerised solution to a problem chosen by themselves which must be solved using original code (programming).

This is a substantial piece of work, undertaken over an extended period of time.

The work for Component 3 must include the development of software in a general purpose high-level language. The system proposed by the student may consist of one integrated program or a suite of related programs.

GCSE minimum requirements:

Mathematics - Grade 6

Computer Science (if taken) - Grade 6 (preferred)