

KS5 OCR A Level Computer Science

Assessment overview

You must take all three components to be awarded the OCR A Level in Computer Science.

Computer systems (01) - 2 hours 30 mins Examination

The internal workings of the (CPU), data exchange, software development, data types and legal and ethical issues.

Calculators not allowed.

Algorithms and programming (02) - 2 hours 30 mins

Using computational thinking to solve problems.

Calculators not allowed.

Programming project (03)

20% Non-exam assessment.

You will be expected to analyse a problem (10 marks), and design (15 marks), develop and test (25 marks), and evaluate and document (20 marks) a program. The program must be to solve it written in a suitable programming language.

Content overview

Component 01: Computer systems

You 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.

Component 02: Algorithms and programming

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

You 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.