Computer Science

Why choose an OCR A Level in Computer Science

This specification has been developed by the team that created the first GCSE Computing qualification in the UK. The experience of the past three years of assessment has clearly demonstrated that OCR has the knowledge and skills to develop reliable and valid qualifications in this area of study.

OCR Computer Science will above all else be relevant to the modern and changing world of computing. It enables teachers to tailor the qualification to meet the needs of their learners in their centre and has an open source ethos allowing any programming language that meets the needs of the course to be used.

Computer Science is a practical subject where learners can apply the academic principles learned in the classroom to real world systems. Learners will develop an ability to analyse, critically evaluate and make decisions. The project approach is a vital component of 'post-school' life and is of particular relevance to Further Education, Higher Education and the workplace. Each learner is able to tailor their project to fit their individual needs, choices and aspirations.

Content Overview

- The characteristics of contemporary processors, input, output and storage devices
- Software and software development
- Programming
- Exchanging data
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues
- Elements of computational thinking
- Problem solving and programming
- Algorithms to solve problems and standard algorithms

The learner will choose a computing problem to work through according to the guidance in the specification.
- Analysis of the problem
- Design of the solution
- Developing the solution
- Evaluation

Components of Computer Science (AS Level)

C01 - Computing Principles

Computing principles component (01) contains the majority of the content of the specification and is assessed in a written paper recalling knowledge and understanding.
This is assessed by a 1 hour and 15 minutes written exam, worth 50% of the total AS Level.

C02 - Algorithms and Problem Solving

Algorithms and problem solving component (02) relates principally to problem solving skills needed by learners to apply the knowledge and understanding encountered in the Computing principles component.
This is assessed by a 1 hour and 15 minutes written exam, worth 50% of the total AS Level.

Components of Computer Science (A Level)

C01 - Computer Systems

Computer systems component (01) contains the majority of the content of the specification and is assessed in a written paper recalling knowledge and understanding.

C02 - Alogrithms and Programming

Algorithms and programming component (02) relates principally to problem solving skills needed by learners to apply the knowledge and understanding encountered in Component 01.

C02 - Alogrithms and Programming

Programming project component (03 or 04) is a practical portfolio based assessment with a task that is chosen by the teacher or learner and is produced in an appropriate programming language of the learner's or teacher's choice. of one of the following: psuedocode, object-oriented, HTML, CSS, Javascript, SQL, Boolean Algebra or Little Man Computer Instruction Set. If the task demands another choice of language that does not appear in the list, the task outline, the details of the programming language and the reasons for the choice of this language should be submitted to OCR for consideration.

Entry Requirements

This course requires at least a Level 6 in both Maths and GCSE Computing.

What will this course prepare me for?

This qualification is suitable for learners intending to pursue any career in which an understanding of technology is needed. The qualification is also suitable for any further study as part of a course of general education.

It will provide learners with a range of transferable skills which will facilitate personal growth and foster cross curriculum links in areas such as maths, science and design and technology. Computer Science is a very creative subject and skills such as problem solving and analytical thinking will all be refined and explored as learners progress through the learning and assessment programme.

The full detailed specification for the course can be found on the OCR website.