

A-LEVEL / AQA / 2 YEARS

COMPUTER SCIENCE

Computer Science is not about learning to use tools or just training in a programming language. Instead the emphasis is on computational thinking, a kind of reasoning used by both humans and machines and which is an important life skill. Computer Science involves questions which have the potential to change how we view the world.

The subject covers both the current technologies and perceived advances in both hardware and software to enable candidates to meet the demands of a highly skilled business and industrial sector. This course with its emphasis on abstract thinking, general problem solving, algorithmic and mathematical reasoning, scientific- and engineering-based thinking, is a good foundation for further study in computing and related areas.

TOPICS STUDIED OVER THE TWO YEAR LINEAR COURSE WILL INCLUDE

Fundamentals of programming, data structures, algorithms, data representation, computer systems, computer organisation and architecture, communication and networking, functional programming. Theory of computation, consequences of uses of computing, Big Data, systematic approach to problem solving.

ASSESSMENT

The Computer Science A-level is a linear course which is assessed through a mixture of examination and coursework.

Paper 1 (2 hours 30 mins, 40% of the A-level) takes the form of an on-screen examination which tests a student's ability to program as well as their theoretical knowledge of computer science.

Paper 2 (2 hours 30 mins, 40% of the A-level) consists of a written examination with short-answer and extended-answer questions to test the students' ability to answer questions from subject content.

Non-examined assessment: A further 20% of the A-level comes from coursework in the form of a project which assesses the students' ability to use the knowledge or skills gained through the course to solve or investigate a practical problem.

SUBJECT COMBINATIONS

Computer Science allows students to employ computing to its maximum potential and it assists in the study of most other subjects.