

# COMPUTER SCIENCE

## A Level Course

### Description

Computer Science is a practical subject where students can apply the academic principles learned in the classroom to real-world systems. It's an intensely creative subject that combines invention and excitement, and can look at the natural world through a digital prism.

The aims of this qualification are to enable learners to develop:

- An understanding and 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 to think creatively, innovatively, analytically, logically and critically
- The capacity to see relationships between different aspects of computer science
- Mathematical skills.

### Entry Requirements

GCSE Average: 4.8. GCSE Grade 6 in Maths, Grade 5 in English. Grade 6 in Computing at GCSE if taken.



### Progression

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.

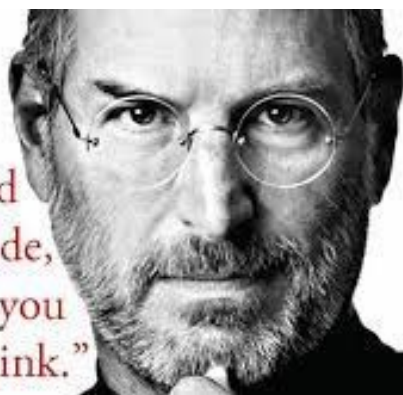


# Course Details

Steve Jobs

1955-2011

"Everyone should learn how to code, it teaches you how to think."



## Content Overview

- The characteristics of contemporary processors, input, output and storage devices
- Software and software development
- 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

## Assessment Overview

Computer systems (01) 140 marks 2 hours and 30 minutes written paper (no calculators allowed)	<b>40%</b> of total A level
Algorithms and programming (02*) 140 marks 2 hours and 30 minutes written paper (no calculators allowed)	<b>40%</b> of total A level
Programming project 03* – Repository or 04* – Postal or 80 – Carry forward (2018 onwards)* 70 marks Non-exam assessment	<b>20%</b> of total A level

## Further Information

Course Leader: Mr A Hussain

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Examination board: OCR

[www.ocr.org.uk](http://www.ocr.org.uk)

