

Computer Science

Introduction

A-Level Computer Science is most suited to 16-19 year olds who have chosen to stay in Education and plan on moving on to further study or a career in any science based area. This is a 2 year A-Level most suited to students who have excelled at GCSE Computing or ICT and have a genuine interest in computer science.

This course is excellent preparation for students looking to take any computing based degree and for anyone considering a career in computing.

The high standards expected from students on this course along with the rigour of the course means it is highly regarded by universities.

This course is most suited to those who have previously studied GCSE Computing. It includes practical coursework for assessing a student's programming skills alongside traditional examinations to assess theory across computing.

Students will gain the ability to apply fundamental principles and concepts of computer science. They will learn how to analyse problems and develop their capacity to think creatively, innovatively, analytically, logically and critically.

Content

This A-Level qualification has three units.

3 Units - : *Computer Systems, Algorithms and Programming, Programming Project.*

Students will cover the following topics for the two exams:

Components of a computer and their uses (CPUs, Memory, GPUs)

Software and Software Development (SDLC, Object Orientation, Analysis)

Exchanging Data (Networks, Databases, Web Technologies, Encryption)

Data Structures (Arrays, Binary, Hex, ASCII, Logic)

Algorithms, Programming Techniques & Computational Methods.

The Coursework unit will allow students to choose a project title and problem to be solved using a selected programming language to demonstrate the skills they have developed over the two years of the course.

Students currently get access to all the learning materials free of charge through e-books, virtual learning and text books.

Course Requirement

5 in GCSE Computer Science
Or B in GCSE ICT.

Course Leaders

Mr C Bradbury
Mr S Frost



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