A-Level Computer Science

Overview:

Exam Board: AQA
This qualification is designed to give students a broad knowledge of Computer Science. As well as developing their theoretical subject knowledge students get the opportunity to work on practical projects/tasks which will develop their confidence and skills in using a variety of software applications.

Content:
The course places a strong emphasis on programming and software development, we primarily program in C# but students have opportunities to program in other languages. Students will also learn the theoretical aspects including computer architecture, data representation and cybersecurity.

Entry Requirements:
The minimum of 5 9-4 grades including English and a grade 6 in Maths. There is no requirement for students to have studied Computer Science at GCSE, however in this case students are recommended to complete some programming to see if it is something you enjoy.

How Assessed:
Paper 1 **-** On-screen examination: 2h30m - 40% of the qualification
An externally-assessed written examination. Topics include data structures, algorithms and the theory of computation. Students answer a series of short questions and write/adapt/extend programs in an electronic answer document provided by AQA. The exam board releases a program and preliminary material which students will study and answer questions on in the exam.

Paper 2 **-** Written examination: 2h30m - 40% of the qualification
An externally-assessed written examination covering topics including, computer architecture, data representation, ethical and legal, communication and networking and databases. The exam consists of short-answer and extended-answer questions.

Non-examined Assessment - 20% of the qualification
Students produce a computer program and accompanying documentation. This unit assesses student's ability to use the knowledge and skills gained through the course to solve or investigate a practical problem. Examples of types of problems solved by student's in the past are:

- a simulation for example, of a business or scientific nature
- a solution to a data processing problem for an organisation, such as membership systems
- the solution of an optimisation problem, such as production of a rota, shortest-path problems or route finding
- game development, i.e checkers/ chess/ platform games
- websites or phone apps

Progression:
The course is an ideal choice for students wishing to progress their studies further in higher education or for students looking for further qualifications to help them gain employment. Many of our students continue on to study Computer Science at University. The programming experience gained is useful in a number of different areas, including maths, the sciences and engineering.

Computer Science has one of the highest graduate employment rates and graduates are in huge demand in a wide range of sectors including finance, engineering, game development, consultancy, governmental and the civil service.