Computer Science

Exam Board: OCR

Entry Requirements:

At least a 'B/6' grade at GCSE in Computer Science or 'Merit at Level 2' in Creative iMedia. Consideration can be given to individuals who did not do ICT at KS4. it is advisable to have achieved at least a B/6 in mathematics for students wishing to do A level Computer Science.

"A student who would enjoy studying Level 3 Creative Media or A Level would have a keen interest in New Technologies, enjoy reading about computing and computer media issues and how computing and computer media is used in different environments and the impact it has on society. You should have an analytical mind and enjoy investigating its uses. You may be looking to follow a degree course in Creative Media, Computer Science, Business or an apprenticeship based around Computing"

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OCR A-level Computer Science is a challenging but inspirational course that encourages students to apply the creative and technical skills that they acquire. The course builds directly upon the skills that pupils have learnt during GCSE Computer Science. Computational thinking is at the core of all aspects of the course, improving pupils' problem solving skills both in Computer Science and in a wider context. In the latest OCR specification, there is a larger focus on Maths than ever before, which is embedded throughout the entire course, including Boolean algebra and algorithms. While the main focus of the course is based on Computational thinking with a large Maths component, there is still provision within the course to continue to build pupils' ICT skills. Within the structure of the course the ICT skills that pupils are taught will be directly related to the Computer Science content that they are covering.

We would be offering the two-year A-level linear course, assessed through two exams and one programming project. The first module, Computer Systems, will be assessed by a two and a half hour exam paper, accounting for 40% of the A-level , and would look at systems architecture including:

- Software and its development
- Types of programming languages
- Data types, representation and structures
- Exchanging data and web technologies
- Following algorithms
- Using Boolean algebra
- Legal, moral and ethical issues

The second module, Computational thinking, will also be assessed by a two and a half hour exam paper, accounting for 40% of the A-level, and will comprise of the following:

- Elements of computational thinking
- Programming and problem solving
- Pattern recognition, abstraction and decomposition
- Algorithm design and efficiency
- Standard algorithms

This paper will be split into two sections: The first will be in the traditional exam paper format; In Section B pupils will be given a scenario where they will have to solve a problem, probably connected to an algorithm.

The final 20% will be assessed through a programming project where the pupils will find a real user to create a system for, such as a booking system for a library. Pupils will design, build and evaluate the system that they have chosen to create.

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