Computer Science

Year: 12/13

"Most good programmers do programming not because they expect to get paid or get adulation by the public, but because it is fun to program."

Linus Torvalds

Course Content

Computer Science A Level 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, that can look at the natural world through a digital prism. The Computer Science qualification will value computational thinking, helping students to develop the skills to solve problems, design systems and understand the power and limits of human and machine intelligence.

Skills developed

- Students are introduced to the internal workings of the CPU, data exchange, software development, data types and legal and ethical issues. The resulting knowledge and understanding will underpin their work in component 03.
- Algorithms and programming which builds on component 01 to include computational thinking and problem-solving. They develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic, translators and data representation.
- Students are expected to apply the principles of computational thinking to a practical coding programming project .They will analyse, design, develop, test, evaluate and document a program written in a suitable programming language.

Topics covered

Component 01: Computer systems

Written paper, 2 hour 30 mins, 140 marks, 40% of qualification.

Component 02: Computational Thinking, Algorithms and Programming

Written paper, 2 hour 30 mins, 140 marks, 40% of qualification.

Component 03: Programming Project (NEA) (Year 13)

Programming project, 70 marks, 20% of overall qualification

For more information

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