



<b>Head of Department :</b>	Mr M Payne Lead Teacher for Curriculum: Mr M Andrews	<b>Exam Board :</b>	OCR	<b>Level:</b>	A-Level
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**Overview:**

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.

**Units:**

**Unit name:** 01 – Computer systems

**Unit content:**

- 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
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**Exam Type:** 2 hours 30 minutes written examination

**Marks:** 140 marks (40% of total A level)

**Unit name:** 02 – Algorithms and programming

**Unit content:**

- Elements of computational thinking
- Problem solving and programming
- Algorithms to solve problems and standard algorithms
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**Exam Type:** 2 hours 30 minutes written examination

**Marks:** 140 marks (40% of total A level)

**Unit name:** 03 – Programming Project

**Unit description:** Learners 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

**Exam Type:** Non-exam assessment

**Marks:** 20% of total A level

### **Career Opportunities**

With a qualification in Computer Science you could go on to Higher Education or work in one of the many vocational areas servicing a world increasingly dominated by the use of computers. Many Computer Science students go on to university after A-levels, and around half follow computer-related courses, such as computer science, artificial intelligence, games design, games programming, software engineering, systems analysis, informatics etc., or joint courses such as business management with computing or IT.