

## Sixth Form – A Level course description

### **Course title: Computer Science – H446**

This specification has been designed to be co-teachable with the stand alone A Level in Computer Science.

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.
- the ability to articulate the individual (moral), social (ethical), legal and cultural opportunities and risks of digital technology.

**Entry Requirements:** Grade 5 in GCSE Computing or in Maths and English

**Topics Covered:** and **Details of Examinations:**

<b>Content Overview</b>	<b>Assessment Overview</b>	
<ul style="list-style-type: none"><li>• The characteristics of contemporary processors, input, output and storage devices</li><li>• Software and software development</li><li>• Exchanging data</li><li>• Data types, data structures and algorithms</li><li>• Legal, moral, cultural and ethical issues</li></ul>	<p>Computer Systems H446 (01) 140 marks 2 hour and 30 minutes written paper (no calculators allowed)</p>	<p><b>40%</b> of total A level</p>
<ul style="list-style-type: none"><li>• Elements of computational thinking</li><li>• Problem solving and programming</li></ul>	<p>Algorithms and problem solving H446(02) 140 marks</p>	<p><b>40%</b> of total</p>

<ul style="list-style-type: none"> <li>Algorithms to solve problems and standard algorithms</li> </ul> <p><i>The learner will choose a computing problem to work through according to the guidance in the specification.</i></p> <ul style="list-style-type: none"> <li>Analysis of the problem</li> <li>Design of the solution</li> <li>Developing the solution</li> <li>Evaluation</li> </ul>	<p>2 hour and 30 minutes written paper (no calculators allowed)</p> <p>Programming project H446(03) 70 marks</p> <p>1 hour and 15 minutes written paper Non-exam assessment</p>	<p>A level</p> <p><b>20%</b> of total A level</p>
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**Exam Board:** OCR (Oxford Cambridge and RSA Examinations)

**Careers:**

- Programmer
- Special effects
- Games developer
- Image manipulation
- ICT consultant
- Teacher
- Software developer
- 3D technology development
- App developer
- TV production
- Software engineer
- Technician
- Website developer and many more.

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