

OCR A Level Computer Science H446 (Exam Board: OCRI)

Head of Department:

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The A Level Computer Science qualification helps students understand the core academic principles of computer science. Classroom learning is transferred into creating real-world systems through the creation of an independent programming project. The A Level will develop the student's technical understanding and their ability to analyse and solve problems using computational thinking.

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.

What do I need?

- Five grade 4 or above at GCSE, including GCSE Computer Science (minimum grade 4 or equivalent) and GCSE Mathematics (minimum grade 5 or equivalent) are required to take the A level Computer Science.
- An interest in Computer Science and its applications
- The self-motivation to work independently
- Good basic ICT skills and a working knowledge of the main applications.
- Good organisational and planning skills

What will I learn?

Learners must take three components (01, 02 and 03) to be awarded the OCR A Level in Computer Science.

The units are structured as follows: -

Content Overview	Assessment Overview	
<ul style="list-style-type: none">• 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	Computer systems (01) 140 marks 2 hours and 30 minutes written paper (no calculators allowed)	40% of total A level
	<ul style="list-style-type: none">• Elements of computational thinking	Algorithms and programming (02) 140 marks

<ul style="list-style-type: none"> • Problem solving and programming • Algorithms to solve problems and standard algorithms 	2 hours and 30 minutes written paper (no calculators allowed)	
<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"> • Analysis of the problem • Design of the solution • Developing the solution • Evaluation 	Programming project 03 Repository 70 marks Non-exam assessment	20% of total A level

Progression

This course will enable learners to progress to higher study or to progress directly to employment. This qualification is suitable for learners intending to pursue any career in which an understanding of technology is needed. The qualification is also suitable for any further study as part of a course of general education.

It will provide learners with a range of transferable skills which will facilitate personal growth and foster cross curriculum links in areas such as maths, science and design and technology. Computer Science is a very creative subject and skills such as problem solving and analytical thinking will all be refined and explored as learners' progress through the learning and assessment programme.

For more information, please follow the link below:

<https://www.ocr.org.uk/qualifications/as-and-a-level/computer-science-h046-h446-from-2015/specification-at-a-glance/>