

POST 16 SUBJECT OVERVIEW

Name of Subject - OCR A Level in Computer Science

Which Examination Specification is Studied for this Course? - H446

Why should I study this course? - The OCR A Level in Computer Science offers the chance for students to take a deeper look into how the fundamentals of computer science work as well as how they are applied in the real world. The course looks at a wide array of elements, from Website Design and Functionality to Networking and data transmission.

The course also features mathematical fundamentals such as logical arithmetic and working with based number systems (Binary and Hexadecimal).

Students will also engage with logical thinking and problem solving in the form of computational quandaries, such as problems in sorting data efficiently using studies such as the Tower of Hanoi problem.

Who is suitable to study this course? - This course is suitable for anybody who wants to have an in-depth look and understanding of how computing systems are used in real-world scenarios and have an interest in technology at a further spectrum.

Those who are mathematically or scientifically based will also benefit from this course as often at Further Studies, these fields require their participants to understand basic computational concepts. (E.g. Physics students will be required to understand programming to design simulations for experimentation).

What GCSE Qualifications Support the Study of this Course?

GCSEs that support this course are varied, but the common ones that will help students the most are:

Physics

Mathematics

Computer Science*

Electronics

*Having to take GCSE Computer Science is not a requirement for the A Level, but core concepts are taken from the GCSE and expanded upon further.

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What are the Qualification Requirements for this Course?

4 GCSEs at a Grade 5+ (Including English)

Mathematics GCSE at a Grade 6+

How is the Course Delivered? - The course is delivered over two years. The subject material will blend in concepts from the AS Scheme as well as the A2 Content to provide a wider picture. A2 concepts are worked on further into Year 13.

The course is taught over 5 hours of in lesson work, but further study at home is recommended to get a better understanding of concepts.

Towards the end of Year 12, all students are required to undertake an independent study project. This must be a programming based project that identifies a real-world application or issue and attempts to use a program based solution. Students are required to analyse, design and implement a solution. Students will also work like the real-world, requiring them to get constant feedback from their end-users or clients to better their solutions.

Subject Overview		
Half Term	Year 12	Year 13
Autumn 1	Unit 1.1	Independent Programming Project
Autumn 2	Units 1.2/3	Independent Programming Project
Spring 1	Units 1.4/5	Recap of content (Unit 1)
Spring 2	Unit 2.x	Recap of content (Unit 1)
Summer 1	Independent Programming Project	Recap of content (Unit 2)
Summer 2	Independent Programming Project	Examination preparation (All Units)

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How is the Course Assessed?

80% Examination - 2 papers, both sat at the end of A2

Both papers as stated are taken at the end of A2. Both papers are weighted at 140 marks each (Totalling 280 marks for both papers).

Paper 1 is the theoretical paper, where you will be examined on content for how computing systems function and the fundamentals behind them.

Paper 2 is more practical in sense, where you will be asked to solve different scenarios using computational thinking concepts.

20% Coursework - Independent programming project

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What is our Recommended Subject Reading list to Support your Study?

Technical forums are very useful in this subject area. Depending on your interest, you will be able to get further information about any side of computing.

Since Computer Science is one of the broadest markets and industries, there are too many resources to list for different specialist areas, but some of the key areas to have a good look into are:

The IET (Institute of Engineering and Technology)

StackOverflow

Tech developer forums (E.g. Unity Creative Forums)