

A Level Computer Science OCR

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Why study Computer Science?

We are living in a digital age where computer programmes have infiltrated nearly every aspect of our lives, and this is really only just the beginning! Studying Computer Science provides vast opportunities to work in the global market in virtually every industry with excellent financial reward.

Computer Science is an intensely creative subject that combines invention and excitement, that can look at the natural world through a digital prism. Computer Science values computational thinking, helping students to develop the skills to design systems and understand the power and limits of human and machine intelligence in an array of topics, also developing key problem-solving skills that are essential in day-to-day life.

This course is the best preparation for students who want to go on to study Computer Science at a higher level and will also provide a good grounding for other subject areas that require thinking creatively, innovatively, analytically, logically, and critically.

About the course

Computer Science teaches students how to apply skills in and an understanding of computing (including programming) in a range of contexts to solve problems and delving into producing graphical user interfaces and object-orientated programming solutions.

Through the creation of a programming project, students will have the opportunity to create a substantial piece of software using modern design methods and guided by teachers, they will look to display their skills and talents.

Year 12

Lessons involve discovering key theories and techniques in Computing, then instantly applying them to their practical application through coding! The Department has made a significant investment in leading edge learning resources for both Year 12 and Year 13 students. Our AS Level Computer Science qualification splits learning into two sections: Computer Fundamentals, and Programming Techniques and Logical Methods. The qualification is unique as it is the only one in the Computer Science suite that does not test a student's ability to program. Within the course, students study a range of theory topics, which include the principles and understanding linked to programming, as well as topics such as hardware and software, networks, systems development life cycles and implications of computer use.

Year 13

This builds on Year 1 learning with students delving deeper into topics such as pattern recognition, abstraction of the real world and algorithm efficiency. The other 20% will be the coursework project which has a focus on coding an app to meet a real-world need. This involves analysing a problem, designing a solution, implementing the solution then thorough testing and evaluation. Students have completely free choice on the purpose and design of their

app. This could be a revision app for students, a booking system for a local business or even a game in Unity using a language like C#. Teachers support the learning journey for students, making sure they develop their coding skills to be able to tackle their project.

Assessment

Year 12 will consist of two components, which will be externally assessed and weighted at 50% each.

Year 13 will consist of three components, two of which will be externally marked question papers making up 80% of the qualification.

Entry criteria

In order that students have full access to everything we study and that they enjoy the course, we require 5 grade 5s or above at GCSE, including maths.

You do not need to have taken Computing at GCSE.

Outside the classroom

The digital age relies upon computers. Over 93% of UK Computer Science graduates secure well paid positions in the Technology Industry within 6 months of graduating. A systems developer earns between £45,000 - £70,000. You may have noticed that computers are global! Being skilled in Computer Science opens up a whole world of well paid, interesting career opportunities for you.

