

Computer Science

Level 3

A Level Course Leader: Mr C Jukes

Entry requirements

- Students should have five 9 – 4 grades at GCSE (preferably English Language must be attained at grade 4, or higher, due to fairly high proportion of coursework)
- The ability to analyse problems in computational terms through practical experience of solving such problems including writing programs
- The capacity for thinking creatively, innovatively, analytically, logically and critically

Why choose this course?

This specification has been developed by the team that created the first GCSE Computing qualification in the UK. The experience of the past three years of assessment has clearly demonstrated that OCR has the knowledge and skills to develop reliable and valid qualifications in this area of study. OCR Computer Science will above all else be relevant to the modern and changing world of computing. It enables teachers to tailor the qualification to meet the needs of their learners in their centre and has an open source ethos allowing any programming language that meets the needs of the course to be used.

Computer Science is a practical subject where learners can apply the academic principles learned in the classroom to real world systems. It is an intensely creative subject that combines invention and excitement, and can look at the natural world through a digital prism. OCR's A Level in Computer Science will value computational thinking, helping learners to develop the skills to solve problems, design systems and understand the power and limits of human and machine intelligence. Learners will develop an ability to analyse, critically evaluate and make decisions. The project approach is a vital component of 'post-school' life and is of particular relevance to Further Education, Higher Education and the workplace. Each learner is able to tailor their project to fit their individual needs, choices and aspirations. OCR offers a rigorous assessment structure that ensures the integrity of the project.

Web Links

www.ocr.org.uk/Images/170844-specification-accredited-a-level-gce-computer-science-h446.pdf

www.ocr.org.uk/qualifications/as-a-level-gce-computer-science-h046-h446-from-2015/

Course content

What does the course involve?

Computer systems (01)

140 marks 2 hours and 30 minutes written paper (no calculators allowed)

- 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

Algorithms and programming (02)

140 marks 2 hours and 30 minutes written paper (no calculators allowed)

- Elements of computational thinking
- Problem solving and programming
- Algorithms to solve problems and standard algorithms

Programming project (03)

70 marks Non-exam assessment

The learner 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

Possible career pathway

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.

Note: This is our current offer which is subject to change
