



# A-Level Computer Science (OCR)

A-Level Computer Science qualification is suited to students who like to solve problems and write code. It covers the core academic principles of computer science. You will develop your understanding of and ability to apply the fundamental principles and concepts of computer science and the ability to analyse problems in computational terms. Practical experience of solving problems is applied including writing programs to do so.

Classroom learning is transferred into creating real-world systems through the creation of an independent programming project. It will provide you with the capacity for thinking creatively, innovatively, analytically, logically and critically.

Choosing to study A-Level Computer Science can open doors to various career opportunities in data science, web development and software development or prepare you for future study at Higher Education.

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## Qualities and qualifications needed

Students studying computer science will need: grade 6 or above at GCSE Computer Science and/or strong GCSE Mathematics and Science at a grade 6 or above. The course requires resilience and problem solving skills and a desire for wider reading, independent working and the willingness to put in the required study time beyond attending the classroom lessons.

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## How will the course be assessed?



**This course is assessed through 100% external examination.**

For more information please see examination details overleaf.

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## Course content

### Unit 1: Computer Systems

- 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

### Unit 2: Algorithms and programming

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



## Examinations



**Unit 1: Computer systems**  
(externally assessed examination)  
40% of the course

- Examination is out of 140 marks
- 2 hours and 30 minutes written paper (no calculators allowed)



**Unit 2: Algorithms and programming**  
(externally assessed examination)  
40% of the course

- Examination is out of 140 marks
- 2 hours and 30 minutes written paper (no calculators allowed)



**Programming project: NEA Non-exam assessment** (externally moderated)  
20% of the course

- Project is out of 70 marks

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## Methods of teaching and learning

You will choose a computing problem to work through according to the guidance in the specification. The project will include:

- Analysis of the problem, design of the solution, developing the solution, evaluation.



It's was a comfortable environment that helped me with my education.

RP6<sup>TH</sup> student

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