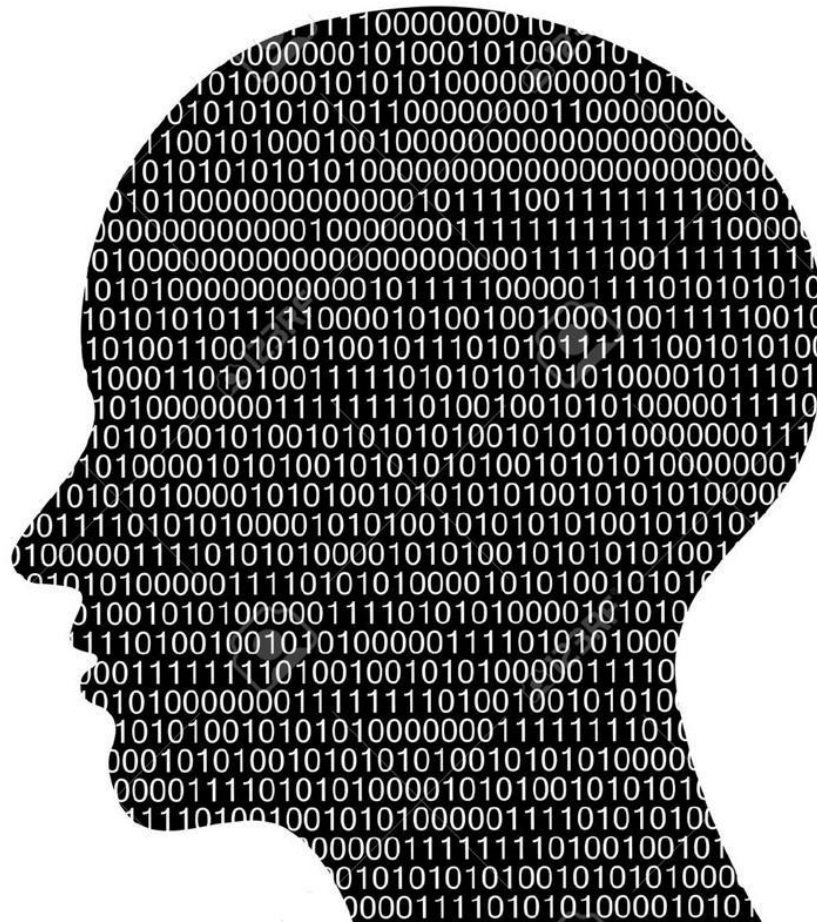


# GCE Advanced Level Computer Science



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## Description:

The aims and objectives of the OCR GCE Advanced Computer Science course are to enable you to develop an understanding and ability to apply the principles and concepts of:

- Computer science, including abstraction, decomposition, logic, algorithms and data.
- 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.

You will be introduced to Computer Science through building your knowledge of problem solving, computer programming, and mathematical skills to express computational laws. In your second year of study, you will increase your breadth and depth of knowledge and understanding by developing your computational thinking skills. You will be required to analyse a problem selected by yourself or the Academy, design a solution, implement the solution and give a thorough evaluation.

## Career paths:

This qualification is suitable if you are 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 you with a range of transferable skills which will facilitate personal growth and has links in areas such as maths, science and design and technology.

By studying this qualification students can access careers such as:

- Game Developer
- Database administrator
- Web designer
- Security Advisor
- IT consultant
- Analyst
- Business analyst
- Teacher
- Multimedia programmer

## Entry Requirements:

5 or more 9-5 grades (GCSE or BTEC equivalent) including a grade 5+ in English and Maths. If you have previously studied Computer Science, then we require a minimum of a grade 6 at GCSE in Computer Science.

## Course details & Assessment:

There is a mixture of external (80%) and internal (20%) assessment. The course content is made up of the following

### Theme 1 Computer Systems:

Covering the contemporary systems architecture and other areas including the following:

- Software and software development
- Exchanging data
- Data types, data structures and algorithms
- Legal, moral, cultural and ethical issues
- The characteristics of contemporary processors, input output and storage devices

### Theme 2 Algorithms and Programming:

Covering computational thinking:

- Elements of computational thinking
- Programming and problem solving
- Pattern recognition, abstraction and decomposition
- Algorithm design and efficiency
- Standard algorithms.

### Theme 3 Programming Project:

You and/or the Academy select your own user-driven problem of an appropriate size and complexity to solve.

**Paper 1:** Computer Systems (Written paper) (40%)

**Paper 2:** Algorithms and programming (Section A – Traditional questions / Section B – A scenario-based task.) (40%)

**Paper 3:** Programming Project (Selected by you and/or the Academy) (20%)



For more information about Computer Science see Mr Davu  
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