Computer Science

OCR

Further information please email: mail@nhgs.co.uk

Entry Requirements

NHGS Sixth Form entry requirements plus a Grade 6 or above in GCSE Mathematics.

Aims of the Course

A Level Computer Science will develop computational thinking, helping learners to gain the skills to solve problems, design systems and understand the power and limits of human and machine intelligence.

Course structure and content

The course has an emphasis on:
Problem solving using computers;
Computer programming and algorithms.

It also develops mathematical skills used to express computational laws and processes, for example Boolean algebra/logic and algorithm comparison.

Component 1

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.

Component 2

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

Programming Project

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.

Assessment

At the end of the Lower 6th, students sit an exam on all of the Lower 6th content. This does not count towards the final grade, but assesses the content at this half-way point before progression to the Upper 6th.

The final assessments at the end of the Upper 6th are as below:

Assessment 1 - 40% 2 hours 30 minutes written paper based on Component 1 (140 marks).

Assessment 2 - 40% 2 hours 30 minutes written paper based on Component 2 (140 marks).

NEA - 20% Programming Project (70 marks).

Future career opportunities

Degree or Degree Apprenticeship in Computer Science or follow a more specific Computer Science path in Cybersecurity, Game Design, Data Analysis or Artificial Intelligence.

Please scan here for further course information.