Computer Science

Subject content

You will develop:

- An understanding of the fundamental principles and concepts of computer science.
- The ability to analyse and solve problems, including writing original program code.
- The capacity for thinking creatively, innovatively, analytically, logically and critically.
- Mathematical skills in Boolean algebra, complex algorithms and data representation.
- An awareness of the moral, social, legal and cultural consequences of digital technology.

This course is an award of AQA. Read the full course specification. [https://www.barnsleysixthform college.co.uk/app/uploads/2017/04/AQA-Computer-Science-course-specification.pdf]

Specific entry requirements

GCSE Grade 6 or above in Mathematics is essential. There will also be an induction test for programming aptitude. It is recommended that A Level Computer Science is taken alongside other science subjects and/or Mathematics. GCSE Computer Science is not compulsory, but experience of coding is very helpful, especially for non-science students.

Learning methods

You will be taught using a variety of methods, including presentations, lectures and group work. There will be regular programming sessions where you will learn and practise independent coding skills. Weekly assessments include worksheets and online quizzes.

Assessment

At the end of the course, there are two formal examinations:

Paper 1. Practical – on-screen programming

This tests your ability to write code, as well as theoretical knowledge, covering: fundamentals of programming, data structures, algorithms and computation theory.

Paper 2. Theory - written

Tests your ability to answer questions covering: data representation, computer systems, architecture, effects of use of computers, communication and networking, databases, Big Data and functional programming.

Non-exam assessment – coursework

During the second year, you will produce an individual project which demonstrates your problem-solving and coding ability. You will use the knowledge and skills gained throughout the course to create software on a subject of personal interest. You will work independently over an extended period and present your results as a programmed solution and accompanying formal technical report.

Progression opportunities

Computer Science will prepare you for a range of specialist degrees including computing and software engineering. It also provides transferable skills for a range of other scientific and technical subjects. Career pathways could include: network administrator, database analyst/designer, website developer, technical support and programmer.

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Want to apply?

Visit **https://www.barnsleysixthformcollege.co.uk/apply** to get started
Call us on **01226 216 123**