QUEEN'S COLLEGE

Computer Science

A-Level

Overview

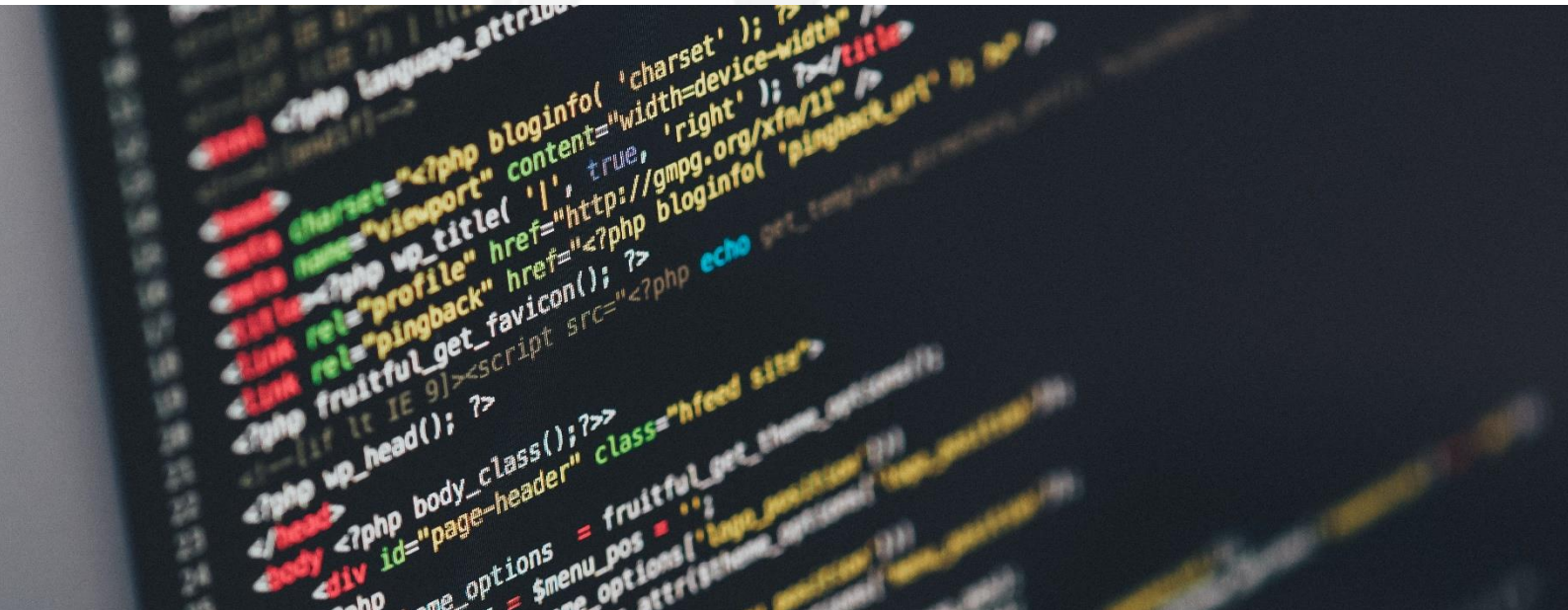
ICT - both desktop and mobile - is becoming totally integrated within education at Queen's College and is embedded across all subjects in the curriculum. Every department has integrated computer modules and apps into their schemes of work and the School's wireless network is extensive. There are 330 connected computers on site giving instant access to the Internet, e-mail and other resources. The majority of the computers are Intel based PCs and laptops however pupils are increasingly using mobile devices and tablets such as iPads and Netbooks and even mobile phone technology both in and out of the classroom.

Why Study?

This course, with its emphasis on abstract thinking, general problem solving, algorithmic and mathematical reasoning, scientific and engineering-based thinking, is a good foundation for further study. Students following this specification do not need to have any prior knowledge of Computing or ICT, but due to the high mathematical content of this course a high pass grade in GCSE mathematics is a prerequisite. The course is not about learning to use tools or just training in a programming language. Instead the emphasis is on computational thinking. Computational thinking is a kind of reasoning used by both humans and machines. Thinking computationally is an important life skill. Thinking computationally means using abstraction and decomposition. The study of computation is about what can be computed and how to compute it. Computer Science involves questions that have the potential to change how we view the world.

Course Overview

In AS and A level Computer Science, students learn the principles of computation and algorithms, computer programming, machine data representation, computer systems (hardware and software), computer organisation and architecture, communications and networking, databases and the consequences of using computing.



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Progression

This specification has been designed for students who wish to go on to higher education courses or employment where knowledge of Computing would be beneficial. Students can study Computing and go on to a career in Medicine, Law, Business, Politics or any type of Science.

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