AQA

Computer Science

About the course

Computing and computer technology are part of just about everything that touches our lives from the cars we drive, to the movies we watch, to the ways businesses and governments deal with us. Understanding different dimensions of computing is part of the necessary skill set for an educated person in the 21st century.

Every industry uses computers so naturally computer scientists can work in any. Problems in science, engineering, health care, and so many other areas can be solved by computers. A Level Computer Science helps you think about how technology is created. It allows you to understand how people work together with computers to develop world changing programmes and applications. You'll develop the skills that universities and employers are looking for – and they'll prove valuable for the rest of your life.

What we study:

- Fundamentals of programming
- Fundamentals of data structures
- Fundamentals of algorithms
- Theory of computation
- Fundamentals of data Representation
- Fundamentals of computer systems
- Fundamentals of computer organisation and architecture
- Consequences of uses of computing
- Fundamentals of communication and networking
- Fundamentals of databases
- Big Data Fundamentals of functional programming
- Systematic approach to problem

Assessment

80% exam and 20% non-exam assessment

Exam:
Paper 1 (40%) – this paper tests a student's ability to program, as well as their theoretical knowledge of computer science from subject content.
Paper 2 (40%) – this paper tests a student's ability to answer questions from subject content.

Non-exam assessment (20%) – the non-exam assessment assesses student's ability to use the knowledge and skills gained through the course to solve or investigate a practical problem. Students will be expected to follow a systematic approach to problem solving.

Careers

Where can it lead?
A level Computer science is naturally a strong subject to take if you wish to go on to do computer science at degree level, and although most computing-based degree courses don't require Computer science at A level there are a number of software engineering courses which do. There are also other degree courses such as information technology and information systems which will be served well by a Computer science A level.

After university, there are numerous interesting fields of study and professions that you can go in to. Computer science will lead on to robotics, artificial intelligence, machine learning, cloud computing, big data processing, networking, ethical hacking, computer game development, home automation or even teaching. So much of the world uses computers nowadays that having a good understanding of how computers work and how to program them will set you up for success in many strands of life.

Entry Requirements

You need to gain a grade 7 in Mathematics and a grade 6 in Science. If students have studied GCSE Computer Science they must achieve a grade 6.

Find Out More

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