

COMPUTER SCIENCE GCSE



What will I learn?

The elements of the course are:

1. Systems architecture
2. Memory and storage
3. Computer networks, connections & protocols
4. Network security
5. Systems software
6. Ethical, legal, cultural & environmental impacts of digital technology
7. Algorithms
8. Programming fundamentals
9. Producing robust programs
10. Boolean logic
11. Programming languages & Integrated Development Environments

The course is a mixture of theory (so students understand the enduring principles, relevant mathematical skills and abstract concepts of Computer Science) and computational thinking and practice (so students learn how to solve problems, write efficient code and build working systems). It provides opportunities for students to explore the wider societal and ethical issues associated with Computer Science and to develop as responsible practitioners.

What about exams?

As with all GCSE qualifications, the assessment is by formal, end of course examination.

There are two written exam papers, or Components, in this subject, each lasting 90 minutes. Component 01: Computer systems Introduces students to the central processing unit (CPU), computer memory and storage, data representation, wired and wireless networks, network topologies, system security and system software. It also looks at ethical, legal, cultural and environmental concerns associated with computer science. Component 02: Computational thinking, algorithms and programming, asks that students apply knowledge and understanding gained in component 01. They develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic and translators.

What's the difference between Computer Science and IT?

IT and Computer Science are two distinct subjects, with different aims and objectives. You need to decide whether you want to be better at using the computers to achieve a specific design or communication task, in which case you would be better suited to IT, or better at the technical elements of computer function and control, in which case this is the course for you.

Do I need a computer at home?

No – but you will need to be prepared to put in an equal amount of time outside lessons as in class to make sure you understand the theory and can apply it in practice. Coursework notes are kept in your own exercise book and on a number of online classroom environments so you can refer to your experiences throughout your studies to help you learn what you need.

Can I go on to A Level?

Yes – this course leads directly into the A Level, and to the BTEC IT.

Want to know more?

Contact Ms Angland in ICT

