Computer Science

Computer Science in the sixth form builds upon the foundation learned during the IGCSE course, exploring exciting concepts and further developing students' Python programming skills with real-world scenarios and software development cycles. The course provides a balance of theoretical knowledge and practical programming, allowing students to explore avenues of computer science which suit their skills and interests within the field.

We follow the AQA A-level specification, which is made up of three components:

- The first component is worth 40% of the A level and tests the student's ability to program, as well as their theoretical knowledge of computer science via an on-screen exam.
- The second is a written exam worth 40% which tests the student's ability to answer questions relating to a wide range of theory topics.
- The final component is non-examination assessment worth 20% of the A level. This component assesses a student's ability to solve or investigate a practical problem following the traditional software development cycle.

Subject Content

1. Fundamentals of programming
2. Fundamentals of data structures
3. Fundamentals of algorithms
4. Theory of computation
5. Fundamentals of data representation
6. Fundamentals of computer systems
7. Fundamentals of computer organisation and architecture
8. Consequences of uses of computing
9. Fundamentals of communication and networking
10. Fundamentals of databases
11. Big Data
12. Fundamentals of functional programming
13. Systematic approach to problem solving
14. Non-exam assessment - the computing practical project

Paper 1
• On-screen exam: 2 hours 30 minutes • 40% of A-level
Paper 2
• Written exam: 2 hours 30 minutes • 40% of A-level
Non-examination assessment
• 75 marks • 20% of A-level

Mr CALLUM BUTCHER
head of computing
& digital learning