Bloxham School

Computer Science

A Level

Why choose this subject?

The increasing importance of computational technologies, (Artificial Intelligence, robotics and self-driving cars being examples frequently in the news), means there will be a growing demand for professionals who are qualified in technical computing skills.

The nature of the course

- Examination board: Cambridge International
- Course contents:
  - Fundamentals of programming (using Python), data structures and algorithms
  - Computational thinking and problem solving
  - Fundamentals of data representation, computer systems, organisation and architecture
  - Consequences of uses of computing, including security, privacy and ethics
  - Fundamentals of communication, networking and internet technologies
 - Fundamentals of databases and data modelling

Examination structure

This A Level is a modular course whereby students take the AS exams at the end of the Lower Sixth, with an opportunity to retake these, if required, at the end of the Upper Sixth alongside the A2 units.

- Paper 1: Theory Fundamentals, written examination, 1 hour 30 minutes (AS)

- Paper 2: Fundamental Problem-solving and Programming skills, written examination, 2 hours (AS)

- Paper 3: Advanced Theory, written examination, 1 hour 30 minutes (A2)

- Paper 4: Further Problem-solving and Programming skills, written examination, 2 hours (A2)

What do we expect from candidates?
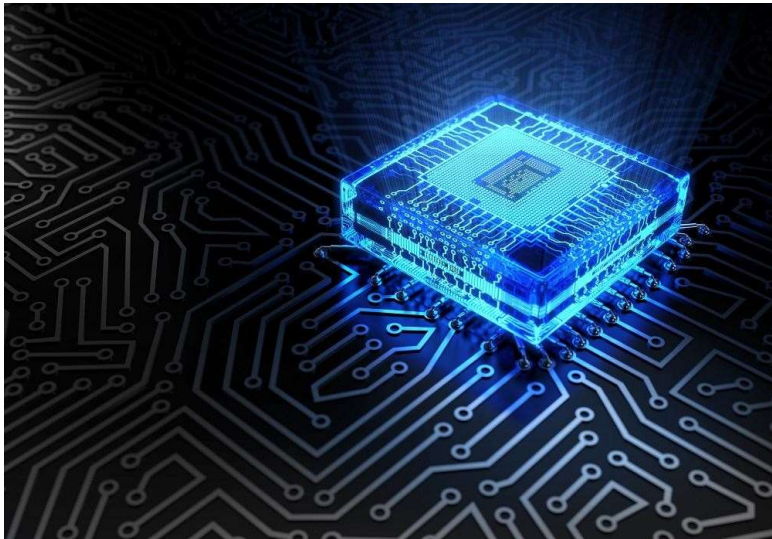
- A strong interest in the subject area. A desire to understand how computers work, not just using them.

- A commitment to significant independent learning.

- Prior knowledge/experience of the subject are very advantageous but not essential.

# With which subjects can it be combined?

- Maths is a very good match alongside Computer Science.

- If intending to apply for Computer Science at university it is strongly advised to take Maths at A Level as this is frequently an entry requirement.

Higher Education and Careers?

- A Level Computer Science provides a strong foundation for the study of computer science or related courses in higher education.

- Equally, this course is very beneficial for candidates intending to pursue other routes into this industry (e.g. degree apprenticeships or directly into employment).
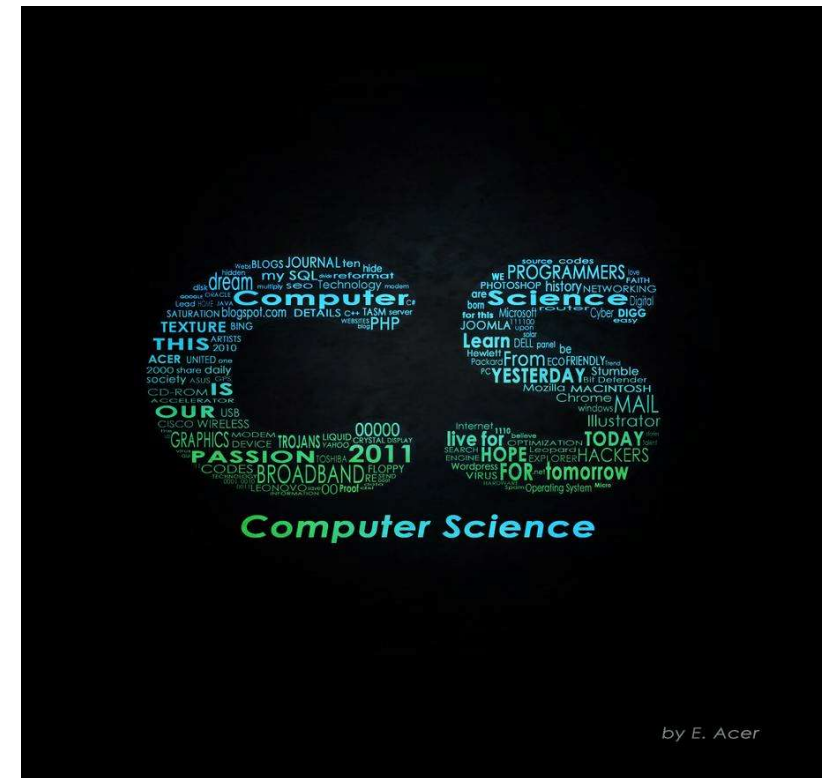
Teaching Staff

- Mr A Gray (Head of Department)
- Mr N Hollinworth