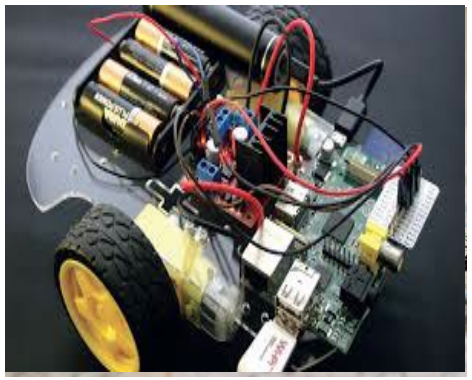
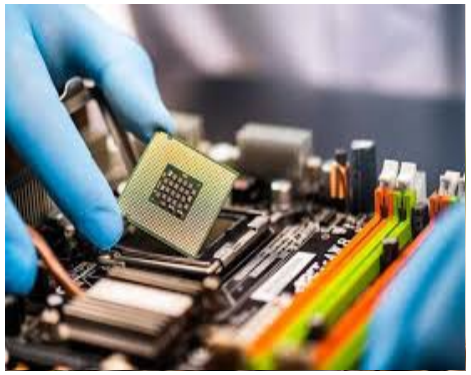
Bloxham School

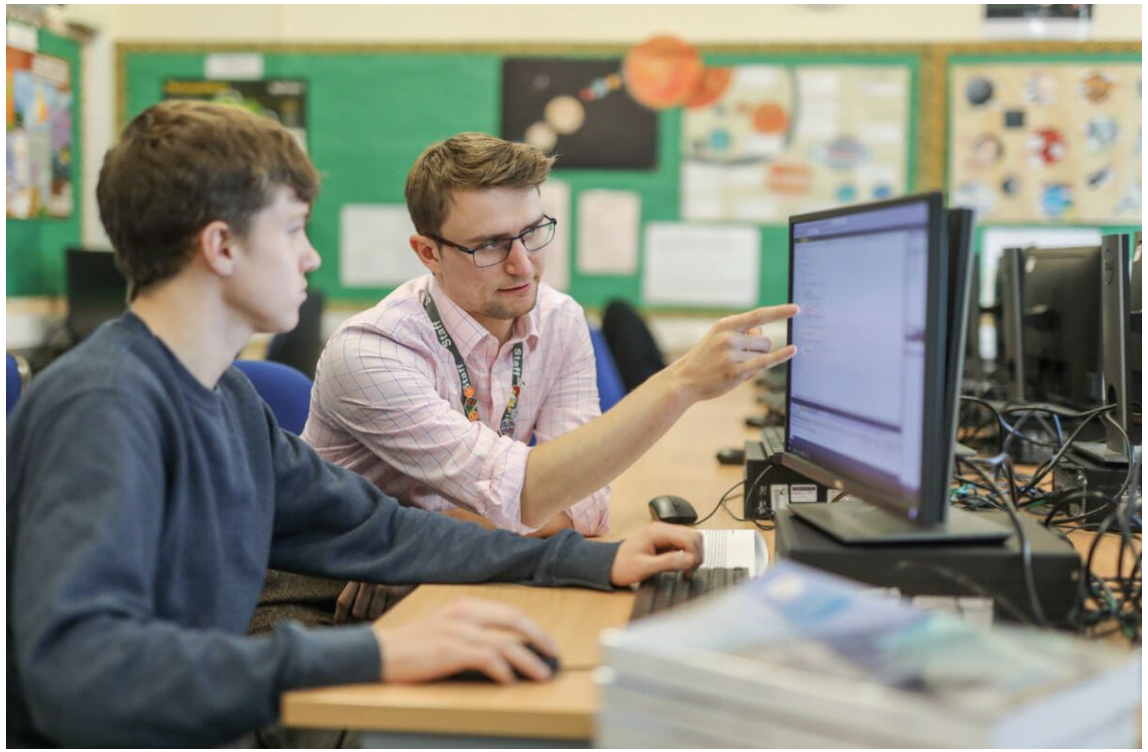
Computer Science

A Level


Why Choose Computer Science?

- You enjoy Computer Science and have a genuine interest or passion for it.
- Computers have dramatically changed the way many of us live or lives.
- As a result, there are many aspects of our lives today that would not be possible on the same scale without computers.
- So studying how they work and the many purposes they have can be both fun and exciting – but also complex and challenging.



Course Syllabus

- Examination board: CIE International A Level
- Course contents:-

Year One	Year Two
Information Representation	Data Representation
Communication	Communication and Internet Technologies
Hardware	Hardware and Virtual Machines
Processor Fundamentals	System Software
System Software	Security
Security, Privacy and Data Integrity	Artificial Intelligence (AI)
Ethics and Ownership	Computational thinking and Problem-solving
Databases	Further Programming
Algorithm Design and Problem-solving	
Data Types and Structures	
Programming	
Software Development	

Examination structure

- Students undertake both AS and A2 Level exams which are combined to give an overall A Level grade.

Year 1

Paper 1 Theory Fundamentals:- Assessed on sections 1-8 of syllabus content (75 marks - 1hr 30 mins) – (50% of AS Level – 25% of A Level).

Paper 2 Fundamental Problem-solving and Programming Skills:- Assessed on sections 1-8 of syllabus content (75 marks – 2 hours) – (50% of AS Level – 25% of A Level). Candidates will need to write answers in pseudocode.

Year 2

Paper 3 – Advanced Theory:- Assessed on sections 13-20 of syllabus content (75 marks – 1hr 30 mins) (25% of A Level)

Paper 4 – Practical:- Paper 4 will assess sections 19 to 20 of the syllabus content, except for low-level and declarative programming (75 marks – 2hr 30 mins) (25% - A Level)

What do we expect from candidates?

- Academic traits: A Level Computer Science is an exciting but demanding subject, so pupils would be expected to have a strong pass in:
  - GCSE Computer Science (typically grades 7-9)
    GCSE Maths (typically grades 7-9) – helpful but **not** essential
- Focus, determination, initiative and consistent hard work.
- Willingness to move beyond just learning facts and to apply concepts/approaches to unknown situations and ask questions to deepen your understanding.
- Wider independent reading around the subject and participation in related extracurricular activities are essential.

Higher Education and Careers?

- Computer Scientists are needed in many different industries, so the choice of career path you could take is very open.
- You may choose to go to university, or you may choose to go down a more vocational/qualification-based route.
- Industries such as science, engineering, finance, manufacturing, sports and healthcare all use computers and digital systems in a wide variety of applications.

Teaching Staff

- Mr L.T.G Harris (Head of Department)
- Additional Staff:- TBC