

Computer Science

Welcome to Computer Science – “Looking under the bonnet”

In Computer Science students learn about the hardware in a computer, how computers send and receive data, number systems and logic and computational thinking. Students will also learn how to program and through programming will develop key skills in problem solving and resilience by creating programs and debugging problems.

The department consists of 2 members of teaching staff, with extensive experience of working with computers in the workplace and teaching the subject up to Key Stage 4. The department is also well supported by experienced computer technicians that enable the running of an efficient network environment. Pupils are taught in form groups for key stage 3, and each room can equip up to 18 students.

There are two well equipped computer rooms, with up to date hardware and software, enabling each pupil to have their own computer.

For Key Stage 3 the department covers content that follows the national curriculum for computing. The lessons provide pupils with the necessary skills and knowledge to access the OCR GCSE Computer Science (9-1) course in Key Stage 4.

Upper 3 (Year 7) pupils have a one hour period per week covering: using Computer Safely and Effectively; Internet Safety; Games; Programming using Scratch; Understanding Computers and Programming using Small Basic.

Lower 4 (Year 8) pupils have a one hour period per week covering: Graphics and Animation; Web Design using HTML; Introduction to Python; Networks and App Development.

Upper 4 (Year 9) pupils have two one hour periods per week covering: Python next steps; Flowcharts and Algorithms; Database Development; Computer Crime and Cyber security; Computer Ethics and Spreadsheet Modelling.

Computer Science GCSE is an option at Key Stage 4. Pupils study the OCR GCSE (9-1) in Computer Science, and have three one hour lessons per week. This course consists of the following key components: Computer Systems; Computational Thinking; Algorithms and Programming.

Currently OCR GCSE (9-1) in Computer Science is assessed with two exams at the end of the course. Each exam counts for 50% of the final grade.

Homework is set across all Key Stages on a weekly basis and pupils are given an outline of what the department expects from them.

The department runs a weekly lunchtime computer club for Key Stage 3, this provides pupils the opportunity to practice and extend their coding skills. At Key Stage 4 an afterschool session is available to support GCSE pupils with their studies.