

BARTON COURT GRAMMAR SCHOOL - COMPUTING

Facilities

The School provides modern and industry-standard ICT facilities, including virtualised servers utilising VMware and 4 server blades, as well as other appropriate servers and technologies. The network uses a mixture of fibre optic and Cat. 5e copper cabling, as well as site-wide Wireless access for School devices and BYOD for the 6th Form. All staff are issued with a laptop running the Windows 10 64-bit Operating System and all classrooms are equipped with Smart IWBs. The ICT development within the School is overseen by the Deputy Head i/c Curriculum, and dedicated staff provide ICT support and strategic management.

The Computing Department has a suite of 2 classrooms, each equipped with 32 computers. In addition there is an ICT Suite in the old house with 18 computers, and an LRC ICT Suite with 36 computers. All student-use computers run the Windows 10 64-bit Operating System. All rooms are fully equipped with programming IDEs for a range of languages including Python and Java. Teachers make full use of the SmartBoard software and use a range of other software packages to make lessons interactive and dynamic. Computing Labs and ICT Suites are bookable for independent study in lessons and in popular after school homework clubs. The Computing Department makes use of a range of software, in addition to the standard office suite, there is also Logicator, JGrasp, BlueJ, Eclipse and Greenfoot. A range of additional resources are used in extra-curricular activities, including Lego Mindstorms, Raspberry Pis, Android mobile devices (for app generation) and FischerTechnic. The School SharePoint VLE contains Staff and Student Portals are used extensively for shared learning resources and assessments, in addition to supporting monitoring and tracking of students.

A variety of activities are included in the 60 minute lessons e.g. puzzles, games, investigations, practical tasks as well as demonstration by examples, question and answer sessions, discussion and practice. Homework is set and marked regularly and all students have information on how assessments are made. High quality work and effort are rewarded with BCGS points.

Key Stage 3

KS3 (Years 7 & 8) Computing is delivered through 1x 60 minute lessons per fortnight. We deliver an in-house curriculum that covers the new national curriculum specification for computing, including a range of different programming environments such as Python and HTML/CSS. Students use a range of resources including those made available on Teach-ICT, and develop skills and understanding that prepare them to progress to GCSE Computer Science. Students will also cover all elements of e-safety and learn how to stay safe online.

Key Stage 4

Computing is currently a popular option subjects at GCSE. The AQA Computing GCSE is followed from year 9. During year 9 students are prepared for the course by learning how to design, construct and test algorithms using the Java programming language. This will prepare students for the controlled assessment element of the course and will provide them with a foundation computational theory. Year 10 comprises of a mixed curriculum which covers the theory of computer systems combined with a range of practical projects. In Year 11 students complete their controlled assessment. KS4 Computing is delivered through 4 x 60 minute lessons per fortnight. Learning is supported by a wide range of practical activities, ensuring that a variety of activities is offered to suit every type of learner.

Key Stage 5

OCR A level Computer Science course is studied in Year 12 and 13. This is a technical course, in which students in KS5 are taught object orientated programming to a high level using the Java programming language and go on to produce a project in the second year. Students also cover a wide range of computational theory including Computer Architecture, Boolean Logic and Computer number systems. KS5 Computing is delivered through 9 x 60 minute lessons per fortnight. Learning is supported by a wide range of practical programming tasks including linked lists, graph traversal etc.