The White Hills Park Federation Trust
A Culture of Excellence

Curriculum Information Bramcote College

Year Group: Year 10

Subject: Computer Science

Objectives/ purpose	GCSE Computer Science covers two main components that are based around the examination papers. Paper 1: Computer Systems and Paper 2: Computational Thinking and Algorithms. There is a practical element of the course and a small project is set for students to apply their programming knowledge. Component 01: Computer systems Introduces students to the central processing unit (CPU), computer memory and storage, data representation, wired and wireless networks, network topologies, system security and system software. It also looks at ethical, legal, cultural and environmental concerns associated with computer science. Component 02: Computational thinking, algorithms and programming Students apply knowledge and understanding gained in component 01. They develop skills and understanding in computational thinking: algorithms, programming techniques, producing robust programs, computational logic and translators. Practical programming Students are to be given the opportunity to undertake a programming task(s) during their course of study which allows them to develop their skills to design, write, test and refine programs using a high-level programming language. Students will be assessed on these skills during the written examinations, in particular component 02 (section B). In year 11 students will focus on the main aspects of paper 2 and develop their experience in relation to programming.
Autumn Term	2.3 Producing robust programs 2.4 Computational logic Recall of Paper 1 components + Programming skill development
Spring Term	2.6 Data representation Programming project completion Recall of Paper 1 components + Programming skill development
Summer Term	Revision and preparation for the May exams.

How is progress measured?	Throughout the schemes of work students, are frequently asked to recall information in a series of low stakes testing scenario's this builds to a summative assessment which requires them to recall key information and demonstrate the exam technique they have developed. Each topic of work is underpinned with a knowledge organiser which is available from the start of the unit of work. There is an assessment at the end of each of the nine topics which will be used to generate the student's current grade. At several times in Year 11 the students will be asked to sit a mock summative examination which will be based on a previous year's terminal examination. The combined result of this assessment will be used to generate the predicted grade and support targeted intervention.
How is the subject externally examined? (KS4 and KS5)	There are two exams at the end of year 11. One for part 1 and one for part 2. Component 1: Computer Systems. 1 hour and 30 minutes. 50% of the qualification 80 marks. Component 2: Computational Thinking, Algorisms and Programming. 1 hour and 30 minutes. 50% of the qualification, 80 marks.
Extending Learning at home	Students will be set regular homework. There are also excellent revision websites and textbooks available (see below) Knowledge organiser – these will be made available at the beginning of each unit of study and there will be an expectation that the students are developing their knowledge and exam technique away from the lesson to prepare for the final unit tests and mock examinations.
Support Available	There is a weekly lunch time catch-up/intervention club for students to attend if they need additional help or support.
Useful web addresses and book resources/revision guides	https://ocr.org.uk/qualifications/gcse/computer-science-j277-from-2020/ https://ocr.org.uk/qualifications/gcse/computer-science-j276-from-2016/ https://cambridgegcsecomputing.org/ https://senecalearning.com/en-GB/blog/gcse-computer-science-revision/ https://www.bbc.co.uk/bitesize/subjects/z34k7ty Revision materials for J276 Grade 9-1 GCSE Computer Science OCR All-in-One Complete Revision and Practice (with free flashcard download) (Collins GCSE 9-1 Revision) Paperback – 25 Aug. 2017 CPG Revision GCSE 9-1 Workbook, Exam Practice Questions and Flashcards

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