

Computer Science KS5 Curriculum Map							
A. Formal Curriculum Key Stage 5							
Core Content & Skills		Computer Science is a practical subject where students can apply the academic principles learned in the classroom to real-world systems. Students develop an understanding and ability to apply the fundamental principles and concepts of computer science, including: abstraction, decomposition, logic, algorithms and data representation. They learn to analyse problems in computational terms through practical experience of solving such problems, including writing programs to do so. They gain the capacity to think creatively, innovatively, analytically, logically and critically.					
Prior Knowledge & Skills		Although a GCSE in Computer Science is useful, it is not a requirement for A Level study, particularly if the student already has some prior exposure to programming languages. The course is a natural extension to prior learning in KS3 and KS4 but topics are covered from first principles and in far greater depth, so it is potentially accessible to any student.					
Future knowledge		By combining A Level study of Computer Science with A Level Mathematics, students can access Computer Science degrees at Russell Group universities. Even on its own, A Level Computer Science can be a route into degrees or apprenticeships in the areas of video game design, data science and cyber security. Finally, since technology is now ubiquitous, it has the potential to support any further learning in any subject but particularly STEM disciplines.					
Year 13	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1 System Architecture Microprocessors Operating Systems Translators	Term 2 Compression Databases and SQL	Term 3 Networking and Web Technologies Cyber Security HTML and Javascript	Term 4 Revision Legal, Moral, Ethical and Cultural Issues	Term 5 Revision	Term 6 Revision
	Key assessment points		Practical Project Submitted		Past Papers	Past Papers	Past Papers
Year 12	Key knowledge, skills and concepts TAUGHT, REVISED, REVISITED AND LEARNT	Term 1 Computational Thinking Selection, Iteration, Recursion, Subroutines Object Orientation	Term 2 Data Types & Structures Binary Arithmetic and Bitwise Manipulation Unity IDE	Term 3 Algorithm Design Searching & Sorting Graph Traversal Optimisation	Term 4 Practical Project Started System Analysis Programming Paradigms	Term 5 Logic Gates and Truth Tables Boolean Algebra	Term 6 Revision Assembly Language
	Key assessment points	Initial Skills Test		Algorithm Design Test			Internal Exams
B. Holistic development via Enrichment/Personal Development Curriculum							
<ul style="list-style-type: none"> - Practical programming project in which students can choose which problem they wish to solve. - Potential for school trips, e.g. Bletchley Park. 							