KS4 Curriculum Overview - GCSE Computer Science

Your child will learn about how computer systems work and the underlying digital processes, develop their knowledge, skills and understanding of computational thinking and developing algorithms during each half term.

Term	Year 10	Year 11
Autumn 1	• 1.2.4 Data storage - numbers • 2.1.1 Computational thinking • 2.1.2a Algorithms • 1.2.3.Units • Practical programming	• 1.3 Networks and Protocols • 2.1 Algorithms • 2.2 Programming fundamentals • Preparation and completion of year 11 autumn mock exam
Autumn 2	• 2.5.1 Languages • 1.1 Systems Architecture • 2.2.2 Data types • 2.2.3a Prog techniques - strings	• 1.4 Network security • 1.6 Ethical, legal, cultural and environmental impacts • Practical programming
Spring 1	• 1.2 Primary memory and secondary storage • Practical programming	• Preparation and completion of year 11 spring mock exam • Practical programming
Spring 2	• 1.2 Data storage • 2.1.3 Searching and sorting • Practical programming	• Exam preparation revision and practice
Summer 1	• 2.1.2b Errors and Trace Tables • 2.3.1a Defensive design • 1.5 Systems software	• Exam preparation revision and practice • Practical programming
Summer 2	• 2.3.1b Defensive design • Exam preparation revision and practice • Practical programming	GCSE Public Examinations

Through the study of Computer Science your child will be expected to develop the following knowledge, skills and understanding:

Computational thinking	Computer Systems
• abstraction, decomposition, logic, algorithms, and data representation • analyse problems in computational terms through practical experience of solving such problems, including designing, writing and debugging programs • think creatively, innovatively, analytically, logically and critically	• understand the components that make up digital systems, and how they communicate with one another and with other systems • understand the impacts of digital technology to the individual and to wider society • apply mathematical skills relevant to Computer Science

Parents can support their child by encouraging them to code in their spare time, using sites such as Trinket and Codecademy. Keep up to date with technological advances and refer to Google Classroom regularly for resources.