

Year: 12

Subject: Computer science

Summer Term		
	Core	Extension
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	<ul style="list-style-type: none">• What is meant by “data type”?• How are numbers stored in memory?• How does an arithmetic logic unit (ALU) perform arithmetic?• How can we work with large binary numbers?• How does a computer store fractions?• How does a computer store text in memory?• What are the differences between arrays, lists and tuples?• What are the uses of stacks and queues?• What is a linked list?• How do graphs work with breadth and depth searches?• How do trees and binary trees work?• What is a hash table?• What is a Karnaugh map?• How do you simplify Boolean expressions?• What are flipflops?• What makes a good A level project?• What legislation applies to computer science?• What are the moral, ethical and social and cultural issues of digital technology?	<ul style="list-style-type: none">• What does the future hold for co-processors?• What is NAND flash?• Who was George Boole?
	Skill/Technique	How students will develop and demonstrate this

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Key skills	Writing and following algorithms Refine and improve solutions Working independently Solving problems Manipulating floating point binary numbers Converting between denary, sign and magnitude and twos complement Simplifying Boolean expressions Drawing Karnaugh maps Programming in high and low level languages	During assessments, classwork and homework, students will: <ul style="list-style-type: none">• complete tasks that test the knowledge and understanding.• Students create a summary sheet for each topic that requires them to condense the topic into one A3 piece of paper.• solve problems in VB.NET & other languages
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