COMPUTER SCIENCE – GCSE*

Students will be taught how to understand and apply the fundamental principles and concepts of Computer Science, including abstraction, decomposition, logic, algorithms, and data representation. We will expect students to be able to analyse problems in computational terms through practical experience, including designing, writing and debugging programs.
The new Computer Science GCSE has been developed to be engaging and contemporary through dialog with companies like Microsoft, Google, and Cisco. The new GCSE gives focus towards cyber security looking at phishing, malware, firewalls and people as the 'weak point' in secure systems. As well as a greater emphasis on 'computational thinking' and programming.
A good computer scientist will be able to:

- Think independently, creatively, innovatively, analytically, logically, critically and use self-study as a means to success.
- 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.

The assessment consists of two written examinations making up 100% of the qualification.

***Computer Science is a challenging GCSE, a GCSE for self-motivated students with a real passion for computing and a desire to learn, experiment, and succeed. You must have spoken with your Computing teacher if you are considering this course.**

Content Overview

Component title	Content overview
Computer Systems	• Systems architecture • Memory • Storage • Wired and wireless networks • Network topologies, protocols and layers • System security • Systems software • Moral, legal, cultural and environmental concerns
Computational Thinking, Algorithms and Programming	• Algorithms • Programming techniques • Producing robust programs • Computational logic • Translators and facilities of languages • Data Representation
Programming Project	• Programming techniques • Analysis • Design

	• Development • Testing and evaluation and conclusions