

GCSE Computer Science

What will I learn?

The focus of the new computing curriculum places greater emphasis on programming, algorithm, computational thinking, global problem solving and other aspects of computer science which burrowed heavily from mathematical principals. The program of study offered by the department aims to ensure that all our pupils:

- ❖ Can analyse problems in computational terms and have practical experience of writing programs.
- ❖ Can understand and apply the fundamental principles and concepts of computer science, including abstraction, decomposition, problem solving, pattern recognition, thinking concurrently, thinking logically, algorithms and data representation.
- ❖ Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- ❖ Are safe, responsible, competent, confident and creative users of ICT
- ❖ Analyze problems in computational terms through the 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.

What do I need to know before I can start the course?

Skills needed to succeed at this course include the following:

- ❖ Cracking the Code
- ❖ Algorithm
- ❖ Python the next level
- ❖ System Architecture
- ❖ Binary, addition, subtraction & Conversion
- ❖ JavaScript
- ❖ Wire, Wireless, Topologies, Protocols, and Layer.
- ❖ Memory.

What does the course involve?

- ❖ Systems Architecture
- ❖ Memory
- ❖ Storage
- ❖ Wired and wireless networks
- ❖ Network topologies, protocols
- ❖ and layers

- ❖ System security
- ❖ System software
- ❖ Ethical, legal, cultural and environmental concerns
- ❖ Algorithms
- ❖ Programming techniques
- ❖ Producing robust programs
- ❖ Computational logic
- ❖ Translators and facilities of
- ❖ Languages
- ❖ Data representation

What can I do after the course? What careers will this course be useful for?

Students who have studied Computing are welcomed in a wide range of professions including Software Development; Systems Analysis; Web Development; Information Security Analysis; Computer Programming and Systems Management

Who can I talk to for more information?

Please talk to Mr Ludovico if you have any questions or concerns.