COMPUTING

“I do not fear computers. I fear the lack of them.” - Isaac Asimov

“I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted.” - Alan Turing

Use and understanding of computers gives learners the opportunity to develop sector-specific knowledge and skills in a practical learning environment. Can you solve problems? Are you a computational thinker? Do you have a scientific and mathematical way of thinking? Computers are changing every part of our lives at an ever increasing rate – why not drive the future?

STUDENTS WILL CONTINUE ONTO ONE OF THE FOLLOWING QUALIFICATIONS

GCSE COMPUTER SCIENCE

This is a GCSE which will inspire students to develop their learning and knowledge of computer systems. The challenging content has been designed not only to allow for a solid basis of understanding of the difference between Computer Systems and Programming but also to engage students and get them thinking about real world application. The course consists of two external exams and one piece of controlled assessment.

\*NB GCSE Computer Science is a challenging course and will only suit students with a solid grasp of Mathematics.

TECHNICAL AWARD IN DIGITAL INFORMATION TECHNOLOGY

The Award gives learners the opportunity to develop sector-specific knowledge and skills in a practical learning environment, including:

• development of key skills that prove their aptitude in digital information technology, such as project planning, designing and creating user interfaces, creating dashboards to present and interpret data

• processes that underpin effective ways of working, such as project planning, the iterative design process, cyber security, virtual teams, legal and ethical codes of conduct

• knowledge that underpins effective use of skills, processes and attitudes in the sector, such as how different user interfaces meet user needs, how organisations collect and use data to make decisions, virtual workplaces, cyber security and legal and ethical issues.

HOW IS IT ASSESSED?

In GCSE Computer Science students will answer a mixture of short and long answer questions based on the content of computer systems. This includes; systems architecture, memory, storage, wired and wireless networks, network topologies, protocols and layers, system security, system software, ethical, legal, cultural and environmental concerns. Students will answer a mixture of short and long answer questions, some of which will require writing program code. The content of this unit consists of; algorithms, programming techniques, producing robust programs, computational logic, translators and facilities languages and data representation.

The qualification consists of three components that give learners the opportunity to develop broad knowledge and understanding of the digital sector and specialist skills and techniques in project planning, designing user interfaces and manipulating and interpreting data. Components 1 and 2 are assessed through internal assessment. There is one external assessment. Component 3 looking at ‘Effective Digital Working Practices, requires learners to analyse and interpret information in relation to different scenarios.

WHY STUDY IT?

If you enjoy the idea of programming and getting a deeper understanding of how software, hardware, security and networks work then this is the course for you. It will challenge you and help to give you the skills to be a part of the changing digital landscape. It’s hard work but very rewarding! You never know, you could invent the next big digital craze. There is a huge demand for people with Computer Science skills, especially in programming and cyber-security.

The digital sector is a major source of employment in the UK, with 1.46 million people working in digital companies and around 45,000 digital jobs advertised at any one time. Digital skills span all industries; almost all jobs in the UK today require employees to have a good level of digital literacy. The UK has positioned itself to be the ‘digital capital of Europe’ as it continues to invest billions every year in digital skills and commerce