GCSE Digital Technologies - Computing

GCSE Digital Technologies is split up into two strands - Computing and Multimedia. The Computing strand will give you an in-depth understanding of how computer technology works. The main focus is computer programming which is not part of the GCSE Digital Technologies (Multimedia) strand.

This course will suit pupils wishing to pursue a career in software and computer games development. It would also suit pupils who are logical and who have an analytical approach to problem solving.

Why is learning to program so important?

- Software is the language of our world today - in the future, not knowing the language of computers will be as challenging as being illiterate or innumerate are today.
- Will every job in the future involve programming? No. But it is still crucial that every child learns to code as these are the skills that are required in a range of industries today and in the future.
- Computational thinking is a skill that everyone should learn! Computational thinking teaches you how to tackle large problems by breaking them down into a sequence of smaller, more manageable problems.

Throughout the course pupils are examined on a range of practical programming tasks which are assessed through controlled assessment coursework. The programming assignments are set by the examination board and pupils will be asked to plan and develop a programming solution to a problem as well as undertake independent research.

At the end of year 11 pupils will sit a 1 hour examination (Unit 1) on the theory of **digital technology**, and at the end of year 12 pupils will sit a further 1½ hour examination on a range of **programming theory** learnt throughout the course.

The course weightings are as follows:

- **Coursework - 30%**
- **Exam - 70%**

Theory topics covered in both strands include:

- The Fundamentals of computer systems
- Computing hardware / software, Networks / Internet
- Ethical, legal, cultural and environmental concerns
- Representations of data e.g. Binary, how sound and images are encoded
- Databases
- Algorithms, programming techniques, computational logic (computing strand only)
- The theory and practice of computer programming (computing strand only)