

Subject:	GCSE Computer Science
Examination Board:	AQA
Syllabus:	Computer Science (8525)

Topics covered:

The theory topics cover computing fundamentals:

- Problem solving: abstraction and decomposition
- Representing algorithms
- Efficiency of algorithms
- Classification of programming languages
- Fundamentals of data representation
- Number bases
- Converting between number bases
- Units of information
- Binary arithmetic
- Character encoding
- Representing images
- Representing sound
- Data compression
- Fundamentals of networks and cyber-security

Skills Developed:

Students learn to code solutions to various problems, using a range of programming constructions and techniques:

- Data types
- Programming concepts
- Arithmetic operations in a programming language
- Relational operations in a programming language
- Boolean operations in a programming language
- Data structures
- Input/output and file handling
- String handling operations in a programming language
- Random number generation in a programming language
- Subroutines (procedures and functions)
- Structured programming
- Robust and secure programming
- Relational Databases and Structured Query language (SQL)

The programming language used will be VB.net.

Support Material:

Text book – ‘AQA GCSE (9-1) Computer Science’ (Robson and Heathcote). All students receive a copy which they will need to use for private study and revision.

We use a large range of web based support materials, hosted on the school’s Managed Learning Environment:

<http://vle.nonsuchschool.org>.

What you could do to support your daughter:

Students will definitely benefit from the opportunity to practice coding at home and will be set some programming tasks to complete on a computer in their own time. The programming environments used are available to install without charge. Internet access is highly desirable. All homework and assessment tasks can be completed in school if necessary.