COMPUTER SCIENCE CURRICULUM

KS4 Learning Journey (Year 10-11)

Cultural, environmental, and legislation

Operating systems

Programming - working with files

IDEs

Interpreters

Translators

OPERATING SYSTEMS

Network threats – malware, social engineering

Programming 2d Arrays

SQL – SELECT, FROM, WHERE

Compilers

YEAR 11

Software Testing Life Cycle

Test Data

maintainability

Procedures and Functions

Binary search

Insertion sort

SOFTWARE TESTING

PROGRAM DESIGN

ALGORITHMS

Merge sort

Testing programs

Flow charts

Validation

Linear search

Bubble sort

Abstraction/Decomposition/Algorithms

Encryption

Arrays

Bubble Sort Algorithm

Wired v Wireless connections

Defensive design

COMPUTATIONAL METHODS

PROGRAMMING

IP/MAC addressing

Network protocols

Iteration in programming - While Loops

While Loop

Primary and Secondary Memory in Computer

RAM - ROM

FDE Cycle

CPU Components

The Internet

LANS/WANS & topologies

Iteration in programming – For loops

Primary and secondary storage

NETWORKING

DNS

Casting and selection in programming

Embedded Systems

Networks

YEAR 10

Inputs/Outputs sequences in programming

50 KB → 20 KB
File compression

How characters are represented

Boolean Algebra
Logic Gate Symbols

Boolean logic

Data types and operators in programming

Python Data Types

HOW COMPUTERS WORK

Hexadecimal numbers

Representation of graphics and sound

Binary/Hexadecimal numbers