

SUBJECT CURRICULUM MAP

Possible space for school emblem

Ethical and Legal

- Ethical issues
- Legal issues
- Cultural issues
- Environmental issues
- Open source vs proprietary software

Python

- Using iteration
- Handling user inputs
- Using data structures
- Working with files

REVISION

REVISION & EXAMS

FURTHER STUDY

- Bsc Computer Science
- Bsc Information Systems Management

CAREER PATHS

- Game Developer
- Software Engineer
- Database Administrator

SKILLS

- Computational and algorithmic thinking
- Problem solving

INTEREST

A continued passion and love of learning about technology and how technology works

YEAR 11

System Software

- Purpose and function of the operating system
- Purpose and function of utility systems

Python

- Structured programs
- Using selection
- Using number data type
- Using string data type

Network Security

- Forms of attack
- Identifying and preventing vulnerabilities

Network Protocols

- Types of networks
- Network architecture
- Network topology
- LANs and WANs

Data Storage

- Units of data
- Binary/base2
- Binary addition
- Binary shifting
- Binary – denary conversions
- Hexadecimal
- Binary –hex conversion

Memory and Storage

- Primary memory
- Virtual memory
- Types of storage
- HDD
- SDD
- Optical

YEAR 10

Developing Websites

- HTML
- CSS
- Using images

Sorting Algorithms

- Bubble sort
- Bucket sort

Searching Algorithms

- Linear search
- Binary search

Advanced Python

- Data structures
- Lists
- Iteration
- Subroutines

System Architecture

- Von Neumann architecture
- Architecture of the CPU
- CPU performance

End of year assessment

Representing Data

- Binary review
- Images – bitmaps
- Images - vectors
- Text
- Sound

Hardware and Computer Systems

- The CPU
- The FDE cycle
- Primary storage

YEAR 9

Python

- Thonny IDE
- Sequence
- Selection
- Variables
- Data types

Edublocks

- Review selection
- Review variables
- Review selection

Spreadsheets

- Identifying cells, active cells and ranges
- Using formulas
- Using functions
- Graphs

Boolean Logic

- More about the CPU
- Where logic gates are used
- Logic gates and truth tables

Binary

- Denary
- Binary
- Where is binary used
- Converting from denary to binary
- Converting from binary to denary

End of year assessment

Computational Thinking

- Decomposition
- Pattern recognition
- Abstraction
- Algorithms
- Using MS Word

Flowcharts

- Why use flowcharts?
- Flowchart symbols
- Taking an algorithm and creating a flowchart

Edublocks

- Introduction to programming
- Using sequences
- Using variables
- Using selection

Hardware and Computer Systems

- Peripherals
- Computer hardware
- Memory and storage

YEAR 8

Online Safety

- Who are you talking to?
- Cyberbullying
- Using MS PowerPoint

Inside a Computer

- Basic function of a computer
- General purpose computers and embedded systems
- Hardware vs software

Using Computers

- Impact of technology
- Accessing email
- Folder structures
- Browsers and applications

YEAR 7

A01

Demonstrate knowledge and understanding of the key concepts and principles of Computer Science

A02

Apply knowledge and understanding of key concepts and principles of Computer Science.

A03

Analyse problems in computational terms