COMPUTER SCIENCE LEARNING JOURNEY

YEARS 10 - 11

COMPUTER SCIENCE
SAMUEL WHITBREAD ACADEMY

Sixth Form?
College?
Apprenticeship?

GCSE EXAMS?

REVISION

REVISION
DATA REPRESENTATION

REVISION
COMPUTER SYSTEMS

REVISION ALGORITHMS

Ethical, Legal & Environmental Impacts of Digital Technology
on Wider Society including Issues of Privacy

Structured Query
Language

REVISION

ETHICAL, LEGAL & ENVIRONMENTAL IMPACT OF DIGITAL TECHNOLOGY ON WIDER SOCIETY INCLUDING ISSUES OF PRIVACY

RELATIONAL DATABASES

Fundamentals of
Computer Networks

Fundamentals of
Cyber Security

Social
Engineering

Methods to Detect & Prevent
Cyber Security Threats

FUNDAMENTALS OF COMPUTER NETWORK

FUNDAMENTALS OF CYBER SECURITY

Relational Databases

YEAR 11

Searching Algorithms

CPU, RAM, ROM, HDD
Cloud Storage &
Embedded Systems

Cyber Security
Threats

1 1010
0101 1
0   0
0 1 1010
01 1 10

Malicious
Code

Application &
System Software

Hardware & Software

Compressing Data

Representing
Sound

COMPUTER SYSTEMS

Sorting
Algorithms

Efficiency of
Algorithms

High Level &
Low Level Programming

Boolean Logic
(AND, OR, NOT, XOR Circuits & Expressions

AND   OR
NOT
Boolean Operators

Representing
Images

DATA REPRESENTATION

Random
Numbers

Structured Programming
& Subroutines
(Procedures & Functions)

Number Bases
(Binary, Denary & Hex)

Units
Bits, Bytes, Kilobytes, Megabytes

PROGRAMMING

DATA REPRESENTATION

Character Encoding
(ASCII & Unicode)

PROGRAMMING

String
Handling

Robust & Secure
Programming

AND, OR, NOT, XOR
(Boolean Operations)

Maths in Programming
(Arithmetic Operations)

Programming Concept
Selection

Converting between
Binary, Denary & Hex

101100
010110
100101

Binary Arithmetic

Representing
Algorithms

ASCII
AMERICAN
STANDARD
CODE FOR
INFORMATION
INTERCHANGE

YEAR 10

Input /
Output

INPUT
OUTPUT

Arrays & Lists
(Data Structures)

Less than, Greater than
(Relational Operations)

Programming Concept
Iteration

Data Types

PROGRAMMING

ALGORITHMS

welcome