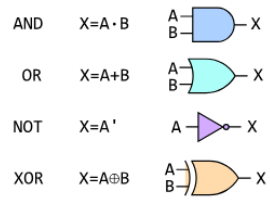
Bramhall High School Computing

A level – Computer Science, (Need grade 6 and above and grade 6 in Maths)

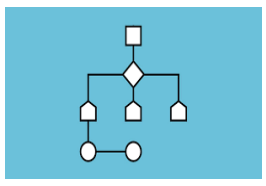
BTEC
(Need Grade 5 in Computer Science)

Other post 16 options – Apprenticeships, T-Levels, other training, College.

GCSE Exams



Revision and consolidation of learning



YEAR 11

Programming Languages
Machine code
Assembly language
Translation
High Level Languages
Error Diagnostics
Run Time Environments

Boolean Logic
Truth Tables,
Logic Gates,
Logic Circuits

Creating Robust Programs
Defensive design,
Anticipating misuse,
Authentication,
Maintenance and Testing,
Syntax/Logic errors,
Refining algorithms

Year 11 Mock Exam

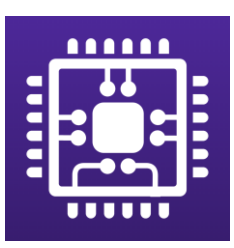
Data Types
Different data types, Strings and concatenation, Arrays and 2D arrays, File handling, Sub programs, Storing data

Algorithms
Computational thinking,
Designing algorithms,
Flowcharts, Input and Output, Pseudocode

Programming Tasks

Searching and Sorting Algorithms
Sorting Algorithms
Searching Algorithms

Programming Fundamentals
Variables and Constants,
Comments, Keywords,
Operators, Nested IF statements, Switch/case



YEAR 10

CPU
What is the CPU,
Components, CPU Performance,
Embedded systems

Data Representation
Number systems,
Binary, Hexadecimal,
Characters, Images and Sound, Compression

Networks
Connecting to a network,
Transmission Media, The Internet, Cloud Storage,
Network Topologies

Ethical, Cultural, environmental and Legal Issues
Impact of Technology, Ethical Issues and Driverless cars, Legal Issues, Cultural Issues, Environmental Issues, Privacy, Legislation

Year 10 Mock Exam

Primary & Secondary Storage
Primary Storage, Virtual Memory, Secondary Storage,
Units of data

Protocols and Layers
Why protocols,
Modes of connection,
Packets

Threats to Networks
System Security, Malware,
Methods of Attack, Identifying Threats, Anti Malware Software, Access levels and Passwords

Operating Systems
Systems Software, User Interface, Memory Management, Peripheral Management, File Management, Utility Software, Encryption, Defragmentation

GCSE Options
Computer Science
Business Studies
Digital Information Technology

Database Applications
Planning, Basic database, Combo Boxes, Validation, Queries, Parameters and Reports

User Interface
Project life cycle, Project Management, Gantt Charts

Vector Graphics
Shapes, Paths
Icons, Vectors,
Digital artefacts

Cyber Security
You and your data
Social Engineering
Script Kiddies
Rise of the bots
There's no place like 127.0.0.1

Networks
Protocols, hardware and software, wired and wireless, internet services, WWW

Website Creation
HTML, CSS, importing images, search engines, web searching, custom website

Vector Graphics
Shapes, Paths
Icons, Vectors, Digital artefacts

Advanced Spreadsheets
McDonalds marketing project, Advanced Modelling, Data sets

YEAR 9

Introduction to Python
Python coding, basic functions, creating variables,

Binary Digits
Intro 0-15, advanced 16-255,
Binary addition, Visual representation

AI
What it is, real world examples,
future jobs, ethics,
the future

Coding Python for Data
Lists, Operations, Data structures, Loops, Operators

YEAR 8

Hardware and Software
Types of Hardware and Software, inside the computer, the operating system, utility software

Block Based Coding
Sequences, Variables,
Selection, Operators,
Iteration and problem solving

Intro to Computing
Introduction, email,
room rules, Office Software, Effective Communication

YEAR 7

STAYING SAFE ONLINE

Sports Project
Effective internet searching,
digital artefact creation

Spreadsheet Modelling
Basic models, calculations,
conditional formatting

Everyday Algorithms
Algorithms, Flow Charts
Sequence, Selection and Iteration

welcome