

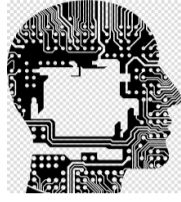
Bramhall High School Computing

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, other A level subjects, other BTEC subjects, other training, College.

End of year exams!!



Revision and consolidation of learning

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

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

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

Data Representation
Number systems
Binary
Hexadecimal
Characters
Images and Sound
Compression

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

CPU
What is the CPU
Components
CPU Performance
Embedded systems



YEAR 11

Coding Challenges

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

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

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

YEAR 10

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

Protocols and Layers
Why protocols
Modes of connection
Packets

Representations – audio to visual
Binary mosaic
Splash of colour
Collage
Good vibrations

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

Searching and Sorting Algorithms
Sorting Algorithms
Searching Algorithms

Boolean Logic
Truth Tables
Logic Gates
Logic Circuits

Year 9 examination

Advanced Spreadsheets
COUNTIF
VLOOKUP
Conditional Formatting
Pivot Tables

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

YEAR 9



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Year 8 examination

Databases
Creating basic database
Combo Boxes
Validation and verification
Forms for data entry
Queries – basic and parameter
Reports

User Interface Creation
Planning
Design
Execution
Review

XIRI Project
More advanced coding skills
IF, ELIF, ELSE Statements
Arrays
Completion
Evaluation

Vector Graphics
Inkscape
introduction
Shapes
Paths
Icons

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Integrated Sports Project
Research
Spreadsheet
Poster
Graphics

Use of Algorithms
Literacy Tests
Everyday algorithms
Flowchart representation

Networks
Protocols
Hardware
Wireless networks
Internet
World wide web

Representations clay to silicon
Introduction to binary number systems
How images can be represented by binary numbers

YEAR 8

Zoo Project
Internet research
Reliability of sources
Creation of digital artefact
Vector Graphics introduction
Evaluation

Introduction to Python (RPI)
Python coding
basic skills e.g. display,
create a variable
Response to a variable
Tme delays
Evaluation skills

Introduction to Technology
Welcome to computing
Literacy Tests
Poster Creation
Microsoft Word
PowerPoint
Online Safety

Mobile Phone Technology
Features and specification
Using Apps
GPS and 4G/5G
Coverage
Data Transfer

Year 7 examination

Scratch Project 1
Programming, Sequencing,
Variables, Selection, Operators,
Iteration, Problem Solving

Computer Systems
Get in gear
Under the hood
Orchestra conductor
Its only logical
Thinking machines
Sharing

Spreadsheets
Basic modelling
Understand simple formulas
More advanced modelling
Simple conditional formatting

YEAR 7



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welcome