

Sequence of Topics for KS3

Computing KS3 – Year 7

The students will be introduced to the IT skills they will need to support other subjects across the curriculum and will be introduced to programming, algorithms, some more complex elements of software packages and an understanding of computer hardware and how it works.

- An introduction to KES Systems, OneDrive, Email, word, hardware and inputs/outputs
- Introduction to databases – students are taught to setup a structure, enter data and interrogate the data.
- Sphero robots – students are introduced to programming using mini Sphero robots, they use block code to move the robots around shapes and mazes.
- E-safety
- Introduction to scratch programming with microbits, preparing them for using python in Year 8

Computing - Year 8

Throughout Year 8 students will continue to study IT/Computing and build upon the skills they have been introduced to in Year 7. This year is used to develop more programming skills, including the introduction of textual programming.

- Microbit Projects - Students will be introduced to using python programming language. They are introduced to programming basics and then will develop these skills to create bespoke projects using the Microbit technologies.
- Computing Theory - An Introduction to Binary, Binary Addition and ASCII
- Relational databases
- E-safety
- Website Development – Students are taught to use the Dreamweaver software along with being introduced to CSS and HTML

Computing Year 9

There will be a deeper focus on programming skills and a look at some of the GCSE theory to give the students a good insight into the GCSE Computer Science and preparation for B-Tec DIT syllabuses.

- Website Development – Students are taught to use the Dreamweaver software along with being introduced HTML
- Cybersecurity
- Spreadsheet Modelling – Students will complete a series of lessons looking at the basic and more complex functions of spreadsheet modelling
- Careers in computer science
- Python Programming - Students to build upon their skills through completing challenges
- Photoshop – Students are introduced to Adobe Photoshop

Computer Science KS4

Y10

1.1 - Systems Architecture	Programming 3.2 Analysis & 3.3 Design
1.2 - Memory	3.4 Development 3.5 Testing & Evaluation
1.3 - Storage	a2.1 Algorithms
1.4 Wired & Wireless Networks	2.2 Programming Techniques
1.5 Network Topologies, Protocols & Layers	2.3 Producing Robust Programs
1.8 Issues	2.5 Translators & Facilities
	2.6 Data Representation Units; Characters; Images; Sound; Compression;

Y11

2.3 Producing Robust Programs	2.3 Producing Robust Programs
2.1 Algorithms	NEA
NEA	
2.4 Computational Logic	1.6 Systems Security
	1.7 Systems Software
Revision	

B-tec Digital Information Technology

Y10

Assignment 1

User interfaces
Project planning and designing for User interfaces
Develop and review a user interface

Assignment 2- Y10/Y11

Investigate the role and impact of using data on individuals
Create a dashboard using data manipulation tools
Draw conclusion and review data presentation methods

Y10/Y11

Modern technologies and their impact on organisation
Threats to digital systems and how an organisation can manage them
Responsible legal and ethical use of data
Planning and Communication in digital systems

KS5**Y12**

2.1.1 - Thinking Abstractly		
1.2.3 - Software Methodologies	2.2.2 - Computational methods	The project – component 3
2.1.2/3/4/5 - Thinking ahead/ procedurally, logically and concurrently		
1.3.2 - Databases	1.4.1 - Data types	
1.2.1 - Operating systems		
1.2.2 - Application generation		
1.5.1 - Laws and Ethical issues	1.4.2 - Data structures	
1.1.2 - Types of processors		

Y13

1.1.3 - Components of the computer	2.3 - Algorithms	The project
1.3.1 - Compression	1.1.1 - structure and functions of processor	
1.3.3 - Exchanging data	1.2.4 - programming languages	
1.5.2 - Ethical Moral and Cultural issues	1.4.3 - Boolean algebra	
1.3.4 - Web Technology		