Dudley Academies Trust - The Link Academy

Statement of Curriculum Intent – **Computing and Business**

A useful way of thinking about progression in computing is to consider the 3 main content areas that pupils develop knowledge of:

- **Computer Science**
- **Information Technology**
- **Digital Literacy**

These 'pillars' of progression are recognised as areas of the curriculum by the Royal Society and are visible in the aims of the national curriculum for computing. Knowledge from each pillar complements the others and some subject content only exists at the interplay between these 3 pillars.

Computer Science is concerned with how computer systems work, and how they are designed and programmed. Learners will gain an understanding of computational systems of all kinds along with methods used for problem solving. **Information Technology** deals with applying computer systems to solve real-world problems. Things that have long been part of ICT in schools, such as finding things out, exchanging and sharing information, and reviewing, modifying and evaluating work. **Digital Literacy** is the ability to effectively, responsibly, safely and critically navigate, evaluate and create digital artefacts using a range of digital technologies.

Learners will develop a knowledge and understanding of 5 key elements of Computing which meet the requirements of the national curriculum.

- Know and understand the key concepts of Computing
- Apply knowledge and understanding of the key concepts and principles of Computing
- Analyse problems in computational terms
- Design creative solutions to problems
- Develop confident and responsible use of modern information technologies

How will this be achieved in our curriculum?

In Year 7, learners will be introduced to the school computer system and its services. They will then gain an understanding of how to stay safe when using computers. Learners will then begin to develop their knowledge of the basic components of a computer system. The next unit focuses on learners developing their coding skills through Scratch. Learners will then move onto a "Binary Basics" unit where they will gain an understanding of how logic gates and binary make up the fundamentals of computing. Finally, learners will gain skills in "Using Media" such as formatting documents, licensing appropriate images and creating a blog to promote a cause.

In Year 8, learners will begin the year by exploring algorithms and using flowcharts. They will use 3D software to create computational abstractions that model real-world problems. Learners will then develop their practical spreadsheet skills before moving on to expanding their coding skills through an App Design unit. Finally, learners in Year 8 will move onto a unit to develop their knowledge of encryption techniques and their uses in the 21st century.

In Year 9, learners will further develop their coding skills through the introduction of a text-based programming language. They will then be able to express their creative side through a digital graphics-based unit. Learners have the opportunity to expand their knowledge of the binary system by observing how images and sound are represented in computers. Moving on, learners will then be exposed to another practical element of coding in the form a web development before a final unit which focuses on developing their knowledge and understanding of computer networks.

How does assessment fit in?

In all years, essential knowledge that supports the underpinning of the computing curriculum is regularly checked through retrieval tasks as part of our Do Now Activities. For each unit covered throughout the KS3 curriculum, pupils are either assessed through project-based work or an end of unit summative assessment. Each unit has built in time to allow pupils to reflect on feedback given and act upon "Even better if" statements to allow pupils to progress further.

How does extra-curricular for **Computing and Business** benefit our learners?

We have recently started a KS3 Retro Gaming Club which is designed to encourage learners to develop their programming skills through games and online tutorials. Whilst building on their computational thinking skills, learners are working with others to develop their interpersonal and team work skills.
Our aim is that through the provision of extra-curricular sessions pupils will not only enjoy playing games but will have a deeper appreciation of the work that goes into making them.