

# Year 9 Computer Science

**Curriculum Manager:** Mr S Howe / Mr J Moore (KS3 – Co-ordinator)

**Teaching Staff:** Mr Moore, Mr Burgess, Mrs Mazurek and Ms S Rashid

**Curriculum Overview:** Pupils will focus exclusively on their computational thinking, problem solving and programming ability within Computer Science in preparation for KS4 study. Pupils will gain experience in physical computing as well as programming languages to develop their knowledge from Year 7 and 8. The pupils will sit four units of study throughout the year which are outlined below:

## Digital Publishing – Topic 1

This is a practical unit where pupils will use a range of image manipulation software to develop an effective digital graphic which will meet a specific client need.

### Areas of study:

- Investigation into client requirements
- Pre-production planning
- Image editing skills
- Image development
- Feedback / review
- Improving work towards a client requirement
- Showcasing design ideas

## Sense Hat Project – Topic 2

This is a practical unit where pupils will use Linux and python to program the sense hats. They will develop a Linux command shell and create a simple program using Python. Pupils will a range of sensors to create Pixel art.

### Areas of study:

- Background research into Sense Hat
- Introduction to python commands
- Independent project on the sense hat
- Pixel art project on the sense hat
- Feedback/Improvement
- Evaluation

## Number Systems – Topic 3

This is a theoretical unit, where pupils develop knowledge in binary representation and logic, as well as storage associated with computing. This unit will be assessed via a linear written examination during exam week in June.

### Areas of study:

- Introduction to binary
- Binary addition/multiplication
- Binary shifts
- Hexadecimal
- ROM / RAM storage
- HDD / SSD Storage
- Cloud based storage

## **Assessments:**

### Practical Exam at the end of topic 3

A range of assessment windows take place during each unit in line with The Dean Trust assessment policy threshold concepts. These include Self, Peer, Formative and Summative assessments.

**Homework:** Pupils complete activities on 'Show My Homework' or Google Classroom that contain questions to check pupils' understanding of key terms and concepts relevant to the tasks completed.

## **Other Useful Information:**

Useful web links: [www.classroom.google.com](http://www.classroom.google.com), [www.bbc.co.uk/education](http://www.bbc.co.uk/education), [www.codecademy.com](http://www.codecademy.com), [www.code.org](http://www.code.org), [www.codecombat.com](http://www.codecombat.com), [www.raspberrypi.org](http://www.raspberrypi.org)