



## OCR GCSE Computer Science – J277

### Computer Science:

Our aim is to equip our learners with the skills to live and work both competently and safely in the digital world. We offer an engaging curriculum for our learners which makes use of a vast range of software and hardware.

With a national shift from ICT to Computing, our Computer Science lessons focus on how computers actually work, rather than simply how to use them. Throughout KS3 we have introduced our pupils to programming concepts so that as they reach KS4, those pupils who opt to study GCSE Computer Science, have the basic skill set to become competent computer programmers.

### Extra-curricular activities and visits (KS4):

As well as our exciting curriculum, as a school we like our pupils to get involved in external competitions and challenges. This is a great opportunity for pupils who need to be stretched and challenged but also opportunity for those with an interest in technology. Activities include:

**BAFTA Young Games Designer of the Year Award** - Whether pupils love to code, draw or write the story, the competition allows you to explore the different areas of making a video game by either entering the Game Making Award or Game Concept Award

**Bebras Challenge** - The Bebras Computing Challenge introduces computational thinking to students. It is organised in over 40 countries and designed to get students all over the world excited about computing.

**Visits to college/university** – Where possible, we try to allow our pupils to gain experience of computing courses which could be pursued upon leaving school. It often provides alternative approaches to teaching and also an insight into alternative hardware and software which may be used.

### Facilities:

Throughout the school we have 4 dedicated ICT suites which are used for both Computer Science and Creative iMedia lessons. Rooms have recently been refurbished creating a positive and pleasant learning environment for our pupils. The rooms are also a bookable resource for other departments and are utilised frequently. As standard the rooms are fully equipped with PC's for each individual, Promethean interactive boards and provisions for sound and multimedia.

### Assessment:

#### Unit 1: Computer Systems – 50% of total GCSE.

A theory based unit which is examined in the summer of Year 11. Topics covered:

- Systems Architecture
- Memory and storage
- Computer networks, protocols and connections
- Network security
- System software
- Ethical, legal, cultural and environmental impacts of digital technology

Assessment overview: 1 x written paper. 1 hour 30mins. Total marks available 80.



## Unit 2: Computational Thinking, Algorithms and Programming – 50% of total GCSE.

A theory unit which is examined in the summer of Year 11. Topics covered:

- Algorithms
- Programming fundamentals
- Producing robust programs
- Boolean logic
- Programming languages and Integrated Development Environments

Assessment Overview: 1 x written paper. 1 hour 30mins. Total marks available 80.

## Unit 3: Programming Project

All students must be given the opportunity to undertake a programming task(s), either to a specification or to solve a problem (or problems), during their course of study. Students may draw on some of the content in both components when engaged in Practical Programming. Topics covered:

- Programming fundamentals
- Analysis
- Design
- Development
- Testing and evaluation and conclusions

Assessment Overview: A practical programming task. 20 hours.

***Please note that the completion of Unit 3 does not contribute to the final grade awarded to the pupil. However, it is an exam board requirement and work is submitted for moderation to ensure good practice at the centre. The task itself is a great opportunity for pupils to practise their programming skills; something which they will be examined on in the Unit 2 paper.***