

## Quality of Education – Computer Science: (to be read in conjunction with the Curriculum Map)



### Intention:

With the ever change world that the students live in, it is mine and the departments intent to provide an inclusive, modern, and challenging curriculum that evolves as technology changes in order to provide students with the skills for future studies or employment, and tools to use social media and the internet safely.

The curriculum will allow them to explore technologies they have never encountered before and further pushing and developing skills that they know already allowing them to show progression. Through the computing curriculum it will also support other elements of the wider school curriculum and allow encourage creativity in the students and form positive attitudes to how they use technology.

### Implementation at KS3

Practical based lessons, taught by a specialist, which focus on developing the skills linked to the topics of study. Students will cover, computational abstractions, computational thinking algorithms, learning a programming language, learning Boolean logic, understanding hardware, software, data types and instructions and how to use technology safely. There are links between these topics where they will use some of the skills and knowledge they have used in previous topics.

### Implementation at KS4

The lessons, taught by a Computer Science specialist, are split into theory and practical lessons. The theory is mostly paper based looking at the following topics in preparation for the exam; how processors work, computer memory and storage, network layouts and how they function, cyber security, hardware and software, and the ethical, legal, cultural and environmental issues. They also learn a programming language which is done in a practical setting where they work through challenges to prepare them for the second paper on algorithms, programming techniques, testing, Boolean algebra and how we store data.

### Impact on students is that they:

The KS3 curriculum provides them with an understanding (even at a basic level) about how technology works and improving their computer literacy. Computational thinking improves their logic, problem-solving, creative thinking and organisation. For students who do not continue with Computer Science at KS4 they will have developed their skills and how they use the technology in society.

The KS4 curriculum provides students with the knowledge and skills to tackle real-world problems. They will valuable thinking and programming skills that are being used in the workplace, a deeper understanding of problem solving, and a grounding in computing theory and understanding.

### For the future:

The course is effective preparation for a range of qualifications including A Level Computer Science and other technical awards. It will also provide them will skills to use in the workplace.