**Computing**

**KS3**

It is the aim of the department to enable students to develop skills and knowledge in computing to prepare them for a future in a world where the use of this technology is fully embodied. We wish to enthuse students to have an understanding far deeper than the interface that they currently operate. We aim to enable students to develop a love of learning for the subject and an understanding that there are no limits to their own development in programming and IT. An important life skill for anyone is to problem solve. Using the strands of computational thinking will aid learners with their computing studies and in everyday life activities. Students will be given guidance on how to work safely online so they can carry out all the necessary steps for their own safety as well as those around them.

At KS3 students will be given the opportunity to develop their digital literacy and programming skills. Learning the language of code is an important bonus as students who develop their coding skills will be able to grasp the magic behind the computers. Students are taught to use technology in a productive manner with an awareness of how to navigate the online world in a safe and respectful way. Students should be able to apply their IT skills across other subjects and at home. This will allow them to take their studies onto KS4 and to Further and Higher education if they desire and ultimately secure a career within a large range of industries.

In year 7 and 8, students have one hour of computing a fortnight. Each fortnight, students have home learning to reinforce what they have been learning within lesson time. These are a mixture of activities, videos, and online quizzes. Twice during each year of KS3, students will take their subject assessments. In computing, these are split between paper-based questions and a computer-based assessment. Knowledge is recapped at the beginning of lessons with retrieval starters. These include content from the knowledge organisers and revisit past topics.

In computing, we aim to help students to:

• Develop practical IT skill sets by using a variety of IT programs, such as the Microsoft Office

• Become responsible, competent, confident and creative users of technology.

• Develop an understanding of the wider applications and effects of IT and Computing.

• Be able to analyse problems in computational terms and have practical experience of writing computer programs in order to solve such problems.

• Be able to evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.

**KS4**

The computing option offered at KS4 is the WJEC ICT Tech Award. The course equips students with the wide range of knowledge and skills needed for a large majority of different careers. The course encourages students to develop their understanding and application of ICT. Students should be able to apply their knowledge and understanding to design systems that solve real-world issues. They should be able to analyse problems such as making reasoned judgements and devise creative solutions using a range of ICT skill sets. Home learning is set weekly in order to recap and reinforce learning from the lessons through the year. Weekly home learning in ICT comprises of a worksheet and a short online quiz, both based around a short video which they start by watching first.

During the course, students develop the following skills:

* Communication
* Coping with rapid changes in technology
* Critical thinking
* Learning independently
* Numeracy and data handling
* Problem solving
* Research
* Taking on responsibility
* Time management
* Designing, programming, testing and evaluating software systems

The course structure of WJEC ICT Tech Award is as follows:

**Unit 1: ICT in Society (Exam Paper)**

* Explore the wide range of uses of hardware, application and specialist software in society
* Investigate how information technology is used in a range of contexts, including business and organisations, education and homes.

**Unit 2: ICT in Context (NEA)**

Coursework assessment – students are given a scenario and undertake several tasks.

* Gain a working knowledge of databases, spreadsheets, automated documents and images.
* Learn to apply knowledge and understanding to solve problems in vocational settings.