ICT Across the Curriculum

Statement of Intent for ICT Across the Curriculum

The increasing use of technology in all aspects of society make it essential for all schools to upskills all students to be confident, creative, and productive ICT users. ICT capability encompasses not only the mastery of technical skills and techniques, but also the understanding to apply these skills purposefully, safely, and responsibly in learning, everyday life, and employment. It is essential that students have the fundamental capacity to participate and engage in modern society.

Students from Coombeshead Academy should leave the school as confident and competent digital citizens learning vital skills, knowledge and understanding of the modern digitally connected world. We therefore incorporate the use of computers and technology across the whole curriculum as technology is part of each student's everyday life. The work across all Key Stages is designed to challenge students to create ICT solutions to key tasks and problems in the real world. As a school we endeavour to increase each student's capability in the use of ICT and provide support that will allow them to become confident and independent users of a wide range of technologies.

Key Stage 4

All students must have the opportunity to study aspects of information technology and computer science at sufficient depth to allow them to progress to higher levels of study or to a professional career.

At Key Stage 3 all students are given a firm grounding in the 3 pillars of computing and ICT education. The three pillars are Computer Science, Information Technology and Digital Literacy. From September 2022 curriculum time at KS3 doubles to one period per week for all year groups (Y7-9).

At Key Stage 4 all students at Coombeshead Academy are given the opportunity to study either Creative Computing (Creative iMedia) or Technical Computing (GCSE Computer Science) at KS4. These courses are specifically prepared to provide the best interleaving of knowledge for subsequent higher-level study, apprenticeships, or careers within the industry of Computing.

We, however, recognise that not all students will opt to participate in these pathways and believe it is essential to empower them with essential skills that will make them more confident digital citizens when they leave. These skills are taught discretely through other subject areas and our tutor program to ensure that our students are competent, capable and confident ICT users.

All pupils should be taught to:

- **develop their capability, creativity and knowledge in computer science, digital media, and information technology**

Early in their career at Coombeshead Academy students are equipped with essential skills to enhance their learning in other subjects. These are then used within a range of different subjects to enhance their learning experiences. Students are discretely taught different creative and technical skills within a variety of pathways such as art, music, and geography.

Students are introduced to many IT packages to suitably format and present their work for a wide range of purposes.

Subject	ICT link
Maths	Use of iPad for SPARX, Dr Frost Maths
BTEC CPLD	Students produce coursework in a variety of formats including PowerPoints. Leaflets, newspaper reports and formal reports.
BTEC H&SC	Students produce coursework in a variety of formats including formal reports, case notes and information packs.
English	Use of Seneca for revision and homework
Science	Use of Seneca for revision and homework At A-Level – use of dataloggers and spreadsheets for collection and analysis of data. Computer modelling of chemicals in Biology.
Music	Use of music software, midi keyboards and recording techniques. Students produce various pieces of coursework on different formats, PowerPoint, posters, articles, and word documents. Use of online music software - Band Lab
Drama	Students produce various pieces of coursework on different formats, PowerPoint, posters, presentations, and word documents for devised drama and for responses to live theatre.
Dance	Students produce various pieces of coursework on different formats; PowerPoint, posters, presentations, and word documents for Component 1 dance portfolio. Within Her Eyes SOL -students explore use of media and film within the repertoire and have the opportunity of filming to enhance their work and explore different audience perspectives.
MFL	Use of Seneca for homework and revision Use of Languages websites for homework and revision
Creative Arts Photography	Students use PowerPoint to create digital sketchbooks – they experiment with layout / design and using this software to record and document their work / progress. Digital sketchbooks are submitted as part of coursework portfolios.

- **develop and apply their analytic, problem-solving, design, and computational thinking skills**

Subject	ICT link
Maths	Students within the maths curriculum are given opportunities to develop and apply their analytic, problem-solving skills that will relate to a future computing pathway. These are specifically within the units: Algebra – links to programming Algebraic proof (computational thinking) Functions – computational thinking Use of data – analytic, different types of data Vectors Geometry/transformations/Pythagoras/Co-ordinates – important for game design Indices Error intervals Rounding Iteration – what happens directly because of an iterative sequence Combinations DIV/MOD – problem solving
Food and Nutrition	Within Food Technology the students are taught how to create and prepare recipes (an algorithmic process). The students must problem solve and

	create the best fit model for their recipe. This will include skills of decomposition and abstraction.
BTEC H&SC	Students are taught research techniques to carry out independent research to analyse current practices and legislation which are then applied to problem solve case studies.
Science	• Following, designing, and amending experimental methods • Analysis of data – qualitative and quantitative, including consideration of continuous and categoric data • Use of equations – including substitution, re-arranging and combining multiple equations • Simple modelling through application of equations
Geography	All students are taught research techniques in a fieldwork setting. Students collect data which they must analyse, both qualitatively and quantitively, and draw conclusions from. Decisions are made from the findings.
Music	Pupils must plan, arrange, and produce their own 'event.' The process of this includes risk assessment management, equipment inventories, lighting display, organisation of sound (setting up PA system), design of marketing and branding for the event. Music composition is based on the concept of 'sound design.' Pupils must compose within a compositional brief, and this means they must analyse that certain genre/style; understand the key concepts and then begin and produce their own version.
Drama	Component 1 and 3- Students analyse and evaluate the devised drama within the written portfolio using ITC and respond to live theatre – google drive, word document
Dance	Students must plan, research, and develop their own choreography based on a given brief in Component 3. Students must develop an understanding of google drive and how they can present their work through an online portfolio using research to support their intentions.
Creative Arts	All Creative Arts students are encouraged to use IT, software packages - Photoshop, Apps and editing equipment as part of their creative development and design process in their work. Several digital and analogue techniques are combined in experimental practice to enable students to make links between digital and real-world briefs.

#G&T encourage to take part in the BEBRAS Challenge?

- **understand how changes in technology affect safety, including new ways to protect their online privacy and identity, and how to identify and report a range of concerns.**

Students are introduced in Year 7 to the concepts of safer internet practice. This is continued each year building upon the skills and knowledge acquired in the previous year. At KS4 students are introduced to a wide range of online concerns and taught ways to protect themselves online including ways to report these concerns.

These areas are delivered through the Life Skills curriculum and assemblies. The school also participates in internet safety day

Subject	**ICT link**
Life Skills	Students learn about safety online, including scams, cyber bullying, how to protect their privacy and identity (Year 7) Students learn about the risks of sharing material online (including inappropriate images) in years 8-11. In Year 9 students learn about the impact that viewing pornography can have on a relationship.

BTEC H&SC	Students learn about the Data Protection Act and sharing of confidential information safely.
English	Learning about changes in technology across time (yr 8 c2) Learning about different news sources, questioning authenticity and reliability of reporting, understanding the dangers and effect of "fake news"
Music	When setting their own 'band profile' on social media, we discuss the risks behind 'phishing' and creating their own social footprint – the importance of having a secure and safe profile.
Drama	When setting up google drive students are advised on privacy measures and settings that are important when working online
Dance	When setting up google drive students are advised on privacy measures and settings that are important when working online.
BTEC Sport	Students learn about the Data Protection Act and sharing of confidential information safely.
Creative Arts Photography / Graphics	Students learn about copyright issues and data protection – artistic rights of photographing work and posting online. What is allowed to be used in terms of copyright free elements for digital artwork. This ties into real life work of digital artists and designers and 'how they work'.