ICT/ Computing Curriculum Intent

Computing is an essential subject which equips students to use computational thinking and creativity to understand and change the world. Computing at Salford City Academy ensures that students become digitally literate – able to use and express themselves and develop their ideas through information and communication technology. The skills students develop in their computing lessons will prepare them for the future workplace.

"Empowering students to be digital literate, in readiness for the next generation"

Our Computing curriculum will provide students with the skills to embrace and utilise new technology in a socially responsible and safe way. We equip our students with the skills to successfully operate in the ever-changing digital workplace and help them to understand the career opportunities that could be open to them. Our students will be digitally literate and competent end-users of technology, developing creativity, resilience, problem-solving and critical thinking skills.

The curriculum threads the three strands of computing (Digital Literacy, Information Technology and Computer Science) throughout Key Stage 3. When students join the academy in Year 7, they are taught a strong message of e-safety through exposing them to scenarios of potential dangers and teaching them a range of strategies to successfully combat them. This year covers the principles of how to access computers, software packages, exploring the history of computing and how technology will continue to evolve. During Year 8, students develop their programming skills further by using Python/Scratch and also 2D animation including further developing graphics skills with an introduction of media theory. Students will also understand the ethics of computing and computer systems (in terms of CPU, RAM, ROM etc), During Year 9, the skills previously learnt and developed further, including moving onto counter controlled iteration, condition controlled iteration, students move onto more in depth analysis of media products with looking at camera angles and representations as well as further developing skills specifically for media products (creating mastheads, banners). During Year 9 students will discover the ethical use of computer systems. Our aim for key stage 3 to develop the students' independence, creativity and creating artifacts following a client brief.

The skills and knowledge acquired in the schemes of work are sequential and increase with complexity as students' progress through Key Stage 3 and Key Stage 4. During Key Stage 4, students will have the option of choosing BTEC Creative Media Production as a GCSE option. Students develop skills across a range of media practices using a combination of practical exploration, experimentation, and realistic vocational contexts. Students will develop personal skills, such as managing their creative projects, documenting progress of skills and work, responding to briefs and presenting work though a practical and skills-based approach.

Students will utilise the following software:

- Microsoft Office: Word, PowerPoint, Excel
- Office 365 Apps: Outlook, Forms, Teams, OneDrive
- Scratch, Python, 2D Animation,
- Photopea Adobe Infinity

Schemes of learning and lessons are sequenced to support students' progression in these areas over the course of study, which has been constructed based on the following principles:

Entitlement: The planned curriculum at SCA includes a breadth of knowledge relating to computer science, information technology and digital literacy. Declarative knowledge ('knowing that') and procedural knowledge ('knowing how') are identified, sequenced, and connected in the curriculum.

Coherence: Taking the National Curriculum as its starting point, our curriculum is carefully sequenced so that powerful knowledge builds term by term and year by year. For example, Year 7 cover Scratch which progresses to Python Programming in Year 8 and 9. Students learn to use debugging habits effectively e.g., comparing code to find differences, evaluating program to explain how it has been able to solve a problem. This also supports the imedia theory and graphics content to be taught in KS4, including how media products are created for specific audiences and purposes in each sector.

Mastery: We ensure that foundational knowledge, skills, and concepts are secure before moving on. Pupils revisit prior learning and apply their understanding in new contexts using the Do it Now. Homework is linked to current and prior learning to build retrieval practice. Our aim is that students understand a key foundation of knowledge thoroughly before exploring more complex ideas. For example with KS4 imedia students focus on the application of a wide range of practical processes, skills and techniques.

Adaptability: Teachers adapt the curriculum for their individual classes and students. This includes adaptations for SEND and appropriate challenge. This ensures a positive learning environment where students are confident to try, make suggestions and develop buoyancy in their subject area. The curriculum allows the core elements of logic and logical thinking, algorithms and algorithmic thinking, patterns and pattern recognition, abstraction and generalization and evaluation, to be confidently understood. For example, all students are taught the same programming languages Scratch and Python, but scaffolding allows them to be accessible for all. KS4 imedia, students can use other graphics software, understanding the different interfaces and skills.

Representation: All our students should see themselves in our curriculum, and our curriculum takes all our students beyond their immediate experience. Digital technology is driving global changes. Our aim is to ensure that the students navigate these changes effectively and safely, which in turn requires a significant understanding of digital literacy, information technology and computer science. This knowledge is crucial if business, industry, and individuals are to exploit the opportunities offered by the new revolution. We relate this to ESafety, how to distinguish which sites are safe and accurate/ how to check and how to keep your data safe online. KS4 imedia students encounter representation of people, places, issues and events. This can also include audience identification, stereotyping and positive and negative representations.

Education with character: We provide Aspire clubs in ICT/Computing to ensure our students have access to programming and creating digital artifacts. This allows students to apply their knowledge of computer science through writing code to solve problems. Computer Science also ensures that students become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. This includes using up to date office programs and utilizing web-based software. During Aspire KS4 students have the opportunity to develop their skills using graphics software and experiment with designs, tools and effects.