Curriculum Intent Statement
Computer Science and IT
John Whitgift Academy

At John Whitgift Academy we believe that our students should have the opportunity to follow an IT and computing curriculum that prepares them for life in modern Britain and take advantage of opportunity this can offer them in both Britain and the wider world.

Good quality IT skills enable students to engage positively within the modern work place, while Computer Science skills enable students to take an active part in the design, development and creation of new technologies to be used in the world in which they live.

The core of the subject is the understanding of how technology works and how it can be developed and utilised. We draw and extend understanding from a range of other subjects outside of IT and Computing including Digital Graphics, Maths, and PSHE and embed clear and high quality literacy and numeracy skills through software development, problem solving and evaluation skills.

We provide a broad range of skills and experiences in year 7 and 8 which are then further developed as students enter years 9 and 10.

In years 9 and 10 students are given the opportunity to study 2 different courses. Creative iMedia gives students a wide range of IT skills that are used in the modern world including Graphics Design, Media Production and Web Development. They develop key problem solving skills useful in a range of disciplines as well as the software development skills that will give them appropriate knowledge for the world of work or for further study in the developing area seen to be key in the modern world. Enterprise gives students an insight into different sized enterprises nationally and within their local community, allowing them to understand entrepreneurial skills. In addition they will understand how technology is used in the modern world supporting enterprise activity. Presentation skills will also be developed with students developing plans and pitches for their own enterprises using technology to support the appropriate research.

Computer Science and IT will give our students the opportunity to:

Demonstrate knowledge and understanding and application of the key concepts and principles of Computer Science:

- Understand and fundamental principles and concepts of Computer Science.
- Be able to apply key algorithms and data representation and mathematical skills through practical and theoretical work**.**
- Understand the key components that make up digital systems and how they communicate.
- Understand the impacts of digital technology to the individual, wider society, the ethical changes and cultural impacts as well as the positive and negative impacts digital technology has had on the environment.
- Equip learners with a range of creative media skills and provide opportunities to develop, in context, desirable, transferable skills in areas such as research, planning and evaluation.

Analyse problems in computational terms, make reasoned judgements and design, program, evaluate and refine solutions:

- Plan and develop software using the software design life cycle
- Use a range of software design techniques such as flowcharts, pseudocode and visualisation diagrams
- Develop key problem solving skills of Abstraction, Decomposition and Algorithmic thinking
- Develop key skills and practical experience in script based programming languages and be able to design, write and debug programs to solve non simplistic problems.
- To be able to think creatively, innovatively, analytically, logically and critically when solving problems.
- Be able to make informed decisions on appropriate and efficient coding techniques such as sequence, selection, iteration and the use of functions
- To be able to design, Program, evaluate and refine solutions to problems

Pedagogy: We strive to educate through a range of teaching strategies which are accessible for all our learners	**Enrichment:** We aim to enrich our curriculum by:
• A range of visual, auditory and kinaesthetic resources are used throughout lessons • Create an environment of confidence where students feel they can experiment, make mistakes and develop their skills in an independent manner • Regular use of teacher and student led live modelling to demonstrate processes and applications both practically and theory based • Experience a wider range of block based and script based languages to develop transferable programming skills	• Establishing cross curricular links • Encouraging students to contribute to the life of the school and the community • Developing partnerships with external providers that extend children's opportunities for learning