IT & COMPUTER SCIENCE CURRICULUM INTENT

HGCSC Mission	Exceptional education for every child, every day

COMPUTER SCIENCE DEPARTMENT CURRICULUM INTENT

As teachers of Computer Science, we aim to develop Computer scientists whom are able to be digitally literate citizens, Problem solve, Critically Think and understand and respect the wider computing world, its opportunities and its responsibilities.

CURRICULUM AIMS

DIGITALLY LITERATE CITIZENS	PROBLEM SOLVERS	CRITICAL THINKERS	WIDER COMPUTING WORLD (Including responsibilities and Opportunities
We aim to teach pupils the basic and advanced skills needed to comfortably use digital technology in education and employment. This includes appropriate use of Software, online etiquette and appropriate online communication (Informal, formal and professional communication).	We aim to give pupils the opportunity to problem solve at all levels. This includes mastering decomposition, pattern recognition and abstraction as well as being able to confidently debug (Subject level) We want pupils to confidently link these skills to other areas of education and employment.	We aim to develop pupil's independence in linking ideas and concepts in and out of the classroom. This includes recognising key programming fundamentals, providing extended responses when questioned, and the ability to self evaluate.	We aim for pupils to be explicitly aware of the links between their study and employment both in and out of the computing industry. We aim for pupils to be advocates of safe, ethical and culturally appropriate use of digital technology. This includes safe online conduct at all stages of education and employment.

5 YEAR PLAN

Give an overview of what your curriculum will achieve (in the classroom and through enrichment opportunities):

Pupils in Y7 will have the opportunity to work on varied aspects of both ICT and computing. Their digital literacy and online safety will be the main focus upon beginning the year, with focus moving to more advanced skills in the development of programming skills and the ability to recognise different levels of data quality. All lessons will have similar outcomes and objectives but will be scaffolded and stretched based on individual needs and abilities within the mixed classes that the department teaches.

Pupils in Y8 and 9 will have the opportunity to continue work on varied aspects of both ICT and computing. Their digital understanding and online safety will continue to be the main focus upon beginning the year, followed by the study of both data analysis and Computer programming using varied languages. All topics will sequence but will vary in depth and rigor year on year.

Elements of Year 7 will be sequenced in these topics in order to give pupils a well-rounded understanding of the computing and programming fundamentals in order to prepare pupils for KS4 courses in both Digital Information Technology and Computer Science.

Pupils in Y10 have the option to select either GCSE Computer Science or BTEC Digital information Technology.

The curriculum at KS3 includes elements of both of these qualifications so that pupils are armed with the fundamentals that can be built upon in both subjects. In Y10 and 11, in both subjects, pupils will be exposed to expectations in question level response from the beginning of the year, this will allow them the opportunity to apply knowledge in the correct way in order to maximise exam and controlled assessment performance.

In GCSE computer Science, pupils will continue to use knowledge of computing fundamentals in order to make progress towards Paper A of their Computer Science course, alongside developing a more advanced understanding of Computer Systems, Computing Law and Legislation and Computing Solutions.

The programming skills learned in KS3 will help pupils make progress towards paper B. Skills in programming using multiple languages will also be enhanced in order to have a broader understanding and skill base which prepares them for the world of work or further study. Pupils will also be expected to implement these skills into a solution for a set programming task.

Similarly in BTEC Digital information technology, pupils will draw upon previous content from KS3 in order to work on a project based assignments based on data analysis and computer fundamentals, and a written exam, encompassing knowledge of the online world.

SKILLS

List the main skills pupils will learn and develop over the curriculum:

- To be digitally literate (Including the ability to use appropriate digital software and hardware to complete a task)
- To evaluate, critique and assess key computing issues
- To work independently and collaboratively on given projects
- To decompose and abstract multiple problems independently
- To build resilience and reduce the fear of failure when using digital hardware and software
- To recognise the difference between appropriate and inappropriate use of technology
- To Comfortably and competently use multiple programming languages

KNOWLEDGE

List the main subject knowledge pupils will learn and develop over the curriculum:

- • Pupils will know a wide range of subject specific vocabulary (tier 3) and be able to use and recognise it accurately.
- • Pupils will be able to use Tier 1 and 2 vocabulary appropriately in a computing context
- • Pupils will understand key computing processes and the reasons why these are conducted
- • Pupils will develop and remember knowledge of key computing concepts using recall that builds on prior learning and scaffolds their understanding
- • Pupils will develop knowledge of key computing terminology and be able to apply this knowledge to given case studies. Scenarios, and extended response questions.
- • Pupils will have knowledge of the similarities of at least 3 programming languages and be able to apply these within given scenarios