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 Y10 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 to maximise exam and controlled assessment performance.

In GCSE Computer Science, pupils will continue to use knowledge of computing fundamentals to make progress towards paper 1 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 2. Skills in programming using multiple languages will also be enhanced 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 of programming tasks.

Pupils in Y11 will reinforce their knowledge on Computer Systems (paper 1) by recapping the unit and identifying common exam questions. Pupils will be regularly exposed to exam questions and learn techniques how to maximise their results on this exam. Students will receive unit tests for each subtopic in J277 in preparation for assessments.

Pupils in y11 will reinforce their programming skills before moving onto an extended programming project. The programming project will give pupils key skills with decomposing problems that are likely to be presented in the exam.

Pupils will learn SQL, understand how a computer translates code into machine code, the reasonings for using IDEs, common searching and sorting algorithms, defensive design, and testing.

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

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.