



### **What is Parkside aiming to achieve through its Computer Science curriculum?**

Students live in a digital age; their work environments and lives are ever adapting and technology plays a bigger role than ever. The role of the computing curriculum is to equip students with computational thinking skills and understanding of the digital age so that they can better understand and live in a digital world. Computing ensures that students are digitally literate and able to express themselves digitally. This is important as it prepares them for a job market where computational thinking skills are in demand.

Not all students will study Computer Science at KS4 so it is essential that students gain a broad set of skills and an awareness of the subject and its impact on the modern world. Part of this involves developing students' problem-solving abilities, which are transferable skills and impact a variety of other STEM subjects.

GCSE Computer Science and Cambridge Technical IT are further options at Key Stage Four and Five, respectively, which will allow learners to continue to develop key knowledge and skills, exploring a range of topics and preparing for future progression in this area.

## Parkside School Subject Curriculum Plan

### Subject: Computer Science – KS4



Year	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
10 Paper 1 (x3)	<b>Systems Architecture</b> <ul style="list-style-type: none"> <li>The purpose of the CPU</li> <li>Common CPU components and their function</li> <li>CPU performance</li> <li>Embedded systems</li> </ul> <b>Memory &amp; Data Storage - Memory</b> <ul style="list-style-type: none"> <li>Primary storage</li> <li>Secondary storage</li> <li>Units</li> </ul>	<b>Data Storage</b> <ul style="list-style-type: none"> <li>Numbers</li> <li>Characters</li> <li>Images</li> <li>Sound</li> <li>Compression</li> </ul>	<b>Computer networks, connections &amp; protocols</b> <ul style="list-style-type: none"> <li>Networks &amp; topologies</li> <li>Wired and wireless networks, protocols and layers</li> <li>Network Performance</li> </ul>	<b>Network Security</b> <ul style="list-style-type: none"> <li>Threats to computer systems and networks</li> <li>Identifying and preventing vulnerabilities</li> </ul>	<b>Systems Software</b> <ul style="list-style-type: none"> <li>Operating systems</li> <li>Utility software</li> </ul>	<b>Ethical, legal, cultural and environmental impacts of digital technology</b> <ul style="list-style-type: none"> <li>Impacts of digital technology on wider society</li> <li>Legislation relevant to Computer Science</li> </ul>
10 Paper 2 (x1)	Python programming					
11 Paper 2	<b>Algorithms</b> <ul style="list-style-type: none"> <li>Computational Thinking</li> <li>Searches</li> <li>Sorts</li> <li>Pseudocode</li> <li>Flowcharts</li> <li>Trace Tables</li> </ul>	<b>Programming techniques</b> <ul style="list-style-type: none"> <li>Sequence</li> <li>Selection</li> <li>Iteration</li> <li>Stings</li> <li>File Handling</li> <li>SQL</li> <li>Data Types</li> </ul>	<b>Producing robust programs</b> <ul style="list-style-type: none"> <li>Defensive Design</li> <li>Testing &amp; maintainability</li> </ul>	<b>Data Representation</b> <ul style="list-style-type: none"> <li>Denary numbers</li> <li>Binary numbers</li> <li>Hexadecimal numbers</li> <li>Characters</li> <li>Images</li> <li>Sound</li> </ul>		
11 Paper 1 (x1)	Revision Paper 1					