

## Year 11 Computer Science

The Year 11 curriculum has been devised to be engaging and practical, encouraging creativity and problem solving. It encourages students to develop their understanding and application of the core concepts in Computer Science. Students also analyse problems in computational terms and devise creative solutions by designing, writing, testing and evaluating programmes.

Methods of deepening and securing knowledge:	
Retrieval practice	Starter activities are used whilst students log on to computers, these are knowledge retrieval activities. Retrieval independent learning tasks are set.
Interleaving	Programming skills are revisited several times. Key concepts are repeatedly covered using different language and are interleaved within the curriculum.
Concrete examples	Concrete examples are used as the teacher demonstrates efficient coding practice.
Other	Dual coding is used as instructions for tasks include written steps and images showing what icons or tools look like.

	Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
Topic(s)	<p><b>Network Security</b></p> <ul style="list-style-type: none"> <li>- Networking threats</li> <li>- Identifying and preventing vulnerabilities</li> </ul> <p><b>Theory revision for PPE</b></p> <ul style="list-style-type: none"> <li>- Data representation</li> <li>- Logic and languages</li> <li>- Algorithms</li> <li>- Computer architecture</li> <li>- Ethical, legal and cultural Issues</li> </ul>	<p><b>System Software</b></p> <ul style="list-style-type: none"> <li>- Operating systems</li> <li>- Utility software</li> </ul> <p><b>Programming Fundamentals</b></p> <ul style="list-style-type: none"> <li>- Programming techniques</li> </ul>	<p><b>Networking</b></p> <ul style="list-style-type: none"> <li>- The Internet</li> <li>- Local area networks</li> <li>- Wireless networking</li> <li>- Client-server and P2P networks</li> <li>- Protocols and layers</li> </ul>	<p><b>Revision</b></p> <ul style="list-style-type: none"> <li>- All theory units</li> </ul>	<p><b>Revision</b></p> <ul style="list-style-type: none"> <li>- All theory units</li> </ul>	

	- Networking threats					
Assessment	Year 11 PPE - November	System software assessment	Networking assessment	Practice exam paper	GCSE exam - May	
CEIAG ( <i>Careers that are linked to that topic</i> )		IT Technician	Network Manager			

<p><b>Independent Learning:</b></p> <p>Independent learning is a core part of learning and serves to support the learning in class. Regular independent learning is set to coincide with the majority of theory lessons. Independent learning is mainly set through the online tool Google Classroom, however some paper based independent learning tasks are set.</p> <p>Preparing for assessment is an essential part of each topic as each assessment allows teachers and students to see their progress. It is crucial that revision is completed so students can show what they know.</p>
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