



The Duke of York Inspiring Digital Enterprise Award (iDEA) is an international programme aiming to help address the digital skills gap.

<https://idea.org.uk/>

Throughout year 10 and 11 pupils will work on their Python coding projects.

Year	Autumn Term	Spring Term	Summer Term
9	<p><b>Computer Science</b> Programming algorithms and evaluation examples:</p> <ul style="list-style-type: none"> <li>• Software development cycle</li> <li>• Testing and debugging</li> <li>• Program development</li> <li>• Effective coding</li> <li>• Evaluation</li> </ul> <p><b>Idea</b></p> <p>During the term pupils will work through their Idea profiles.</p>	<p><b>Computer Science</b> Operation systems: Linux</p> <ul style="list-style-type: none"> <li>• Command line</li> <li>• File Management</li> </ul> <p>Artificial Intelligence examples:</p> <ul style="list-style-type: none"> <li>• What is AI</li> <li>• History of AI</li> <li>• AI developments</li> </ul> <p><b>Idea</b></p> <p>During the term pupils will work through their Idea profiles.</p>	<p><b>Computer Science</b> Networking</p> <ul style="list-style-type: none"> <li>• Encryption</li> <li>• Caesar Cipher</li> <li>• Hashing</li> </ul> <p>Boolean Logic and processing examples:</p> <ul style="list-style-type: none"> <li>• Fetch-Decode-Execute</li> <li>• History of computers</li> <li>• Boolean logic</li> </ul> <p><b>Idea</b></p> <p>During the term pupils will work through their Idea profiles.</p>
10	<p><b>Computer Science</b> Systems Architecture</p> <ul style="list-style-type: none"> <li>• Hardware</li> <li>• CPU</li> </ul> <p>Primary and Secondary Storage</p> <ul style="list-style-type: none"> <li>• Need for different types of storage and how they work.</li> </ul> <p>Algorithms</p> <ul style="list-style-type: none"> <li>• What is an algorithm?</li> <li>• How do we use them?</li> </ul>	<p><b>Computer Science</b> Systems Software</p> <ul style="list-style-type: none"> <li>• What is System Software?</li> <li>• Describe the functions of the Operation System.</li> </ul> <p>Wired and Wireless Networks</p> <ul style="list-style-type: none"> <li>• What is a computer network?</li> <li>• Difference between LAN and WAN.</li> </ul>	<p><b>Computer Science</b> Data Representation</p> <ul style="list-style-type: none"> <li>• Why is binary essential for computer processing?</li> <li>• Use binary to represent characters.</li> </ul> <p>Network Topologies, Protocols &amp; Layers</p> <ul style="list-style-type: none"> <li>• Explain Wi-fi, frequency and channels.</li> </ul>

<b>11</b>	<b>Computer Science</b> Issues with computers <ul style="list-style-type: none"><li>• Legal issues and relevant laws.</li><li>• Environmental issues.</li><li>• Ethical and cultural issues.</li></ul>	<b>Computer Science</b> Systems Security <ul style="list-style-type: none"><li>• Describe the different strategies used by criminals</li><li>• Why are people the biggest security risk to networks?</li></ul>	<b>Computer Science</b> Revisit Key Topics <ul style="list-style-type: none"><li>• Computer Systems</li><li>• Computational Thinking</li><li>• Networks</li><li>• Programming</li></ul>
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