

Year: 10 – first cohort of J277

Subject: Computer science - Option

Autumn Term		
Overarching Topic: Network security and system software		
What has come before and what comes later:	In year 9 students looked at system architecture, memory, storage and networks whilst also practicing and developing their programming in Python.	
	Core	Extension
The Big Questions (What questions will students be able to answer upon mastery of the topic?)	<ul style="list-style-type: none"> <li>• What effect do different malware attacks have on your computer?</li> <li>• How does a brute force attack work on passwords?</li> <li>• What is the effect of a DDOS?</li> <li>• What do we mean by “humans are a weak point”?</li> <li>• How does a SQL injection hack work?</li> <li>• How can you protect yourself against hackers?</li> <li>• Why does your computer need an operating system?</li> <li>• How does a computer manage having lots of programs open and running at the same time?</li> <li>• What features does an operating system give users?</li> <li>• What is the purpose of utility software?</li> </ul>	<ul style="list-style-type: none"> <li>• What real life examples of malware causing issues to organisations are there?</li> <li>• What was Operation Tovar?</li> <li>• Who was Evgeniy Bogachev?</li> <li>• How secure is your password?</li> <li>• What is network forensics?</li> <li>• What other operating systems are there?</li> <li>• What is a roaming profile?</li> <li>• Why is disk defragmentation utility being used less?</li> </ul>
	Skill/Technique	How students will develop and demonstrate this
Key skills	<p>Describe and explain technical terminology and techniques.</p> <p>Apply knowledge to exam style questions.</p> <p>Solve problems</p>	<p>During assessments, classwork and homework, students will:</p> <ul style="list-style-type: none"> <li>• complete a range of activities that test the understanding and application of the topics covered.</li> </ul>