

Sackville School Computer Science Curriculum - Year 11



TERM	WHAT? (Is delivered?)	WHY? (Is this important?)	WHY NOW? (Why is this taught now?)	IMPACT? (What is the impact at the end of this half term?)	ASSESSMENT
Aut 1	Ethical, legal, cultural and environmental concerns Computational logic Data representation - Hex	<ul style="list-style-type: none"> Being able to identify ethical and moral considerations is important in the world of computer science Discussion around disposable technology and its need for change is vital to sustainability Understanding computational logic can enhance understanding of computational thinking. 	<ul style="list-style-type: none"> The global changes seen due to the mining of raw materials for disposable technology means that its prudent to discuss the wider spread impact A good understanding of legislation can be a preventative measure to laws being broken. Being able to convert between binary, denary and hex will allow deeper understanding in coded elements 	Students will be able to: <ul style="list-style-type: none"> Discuss the issues surrounding IT and its moral and ethical impact Complete a range of scenario based questions 	Knowledge Checker QWC Questions
Aut 2	Systems software Units Data storage Translators & languages	<ul style="list-style-type: none"> Different software types is a vital piece of understanding when it comes to software architecture How data is stored will be a requirement in coded related scenarios Understanding the role of translators and different languages can lead to deeper understanding later on their functionality within coding constructs 	<ul style="list-style-type: none"> Builds on Y10 knowledge of systems software Extends understanding of translators and languages Allows for exploration of different languages allowing accurate selection of languages for a given scenario. 	Students will be able to: <ul style="list-style-type: none"> Identify different types of systems software and their uses Be able to strategically analyse data storage Use translators and different languages for given scenarios 	Knowledge Checkers Mock Exam
Spr 1	Networks: Protocols, DNS, Servers, Topologies	<ul style="list-style-type: none"> Understanding how computer devices communicate Builds on LANs and WANs from the previous half term and Key Stage 3 Understanding the need for protocols and their use in a network <ul style="list-style-type: none"> Being able to explain protocol usage and systems 	<ul style="list-style-type: none"> How computer devices communicate with one another is different to a solo device and so this builds from singular, to multiple device requirements. Understanding systems and protocols within a network allows for a deeper understanding of network threats 	Students will be able to: <ul style="list-style-type: none"> List the key features of each protocol Explain the need for different topologies Identify topologies based on communication pathways Discuss the role of a server 	Assessment on each topic area on educake QWC assessment
Spr 2	Network Threats and Vulnerabilities	<ul style="list-style-type: none"> Being able to understand how a threats can materialise and develop is vital to prevention Being able to prevent vulnerabilities is vital in today's word Opportunity for employer engagement Understanding mitigation 	<ul style="list-style-type: none"> The world is changing and so understanding network threats, vulnerabilities and mitigation strategies is vital Its one of the largest strands of their exam It can be used in a wide range of job sectors 	Students will be able to: <ul style="list-style-type: none"> List the key features of each protocol Explain the need for different topologies Identify topologies based on communication pathways Discuss the role of a server 	Mock Exam Assessment on each topic area on educake

Sum 1	<p>Primary storage (memory)</p> <p>Algorithms</p> <p>Secondary storage</p> <p>Producing robust programs</p>	<ul style="list-style-type: none"> • Revision of Year 10 topic on primary and secondary storage to be able to utilize understanding when providing advice on given scenarios • Being able to select and use certain algorithm types is needed in development of robust programs. 	<ul style="list-style-type: none"> • Without the correct use of primary and secondary storage, robust programs fail or become corrupted. • Understanding the need for different algorithms when planning out effective solutions is important. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Identify primary and secondary storage and explain their key characteristics • Select and justify different algorithmic models for producing robust programs. 	QWC Questions
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Links to L4L Curriculum and Gatsby Benchmarks:

- [L4L Online Safety](#)
- [2 - Learning from career and labor market information](#)
- [5 - Linking curriculum learning to careers](#)
- [5 - Encounters with employers and employees](#)
- [8 - Personal Guidance](#)