

		<p>algorithms for programs using flowcharts and pseudocode as well as natural language.</p>
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Students will then understand the differences and uses of searching and sorting algorithms.

WHY NOW -

This unit will build on previous topics skills in programming through practical applications and experience with an IDE.

Year	Topic(s)	Why this? Why now?
Year 11 Computer Science	TERM 1.1 Computer networks, connections and protocols	<p>WHY THIS -</p> <p>This unit will give students an insight into how networks are created and maintained using specific hardware and software components, as well as the different types of commonly used network topologies that are available in the world today. Learners will also understand the factors that may affect a networks performance.</p> <p>WHY NOW -</p> <p>This unit will provide students with the opportunity to build on their knowledge gained in the previous topics including computer systems. Learners will understand how computers can be effective in a network by focusing on the different types of network there are and how these networks are created as well as maintained using a network simulator called packet tracer.</p>
	TERM 1.2 Network security	<p>WHY THIS -</p> <p>This unit will provide students with the opportunity to build on the previous topic covered by learning how to keep their networks secure from different types of threats.</p> <p>Learners will understand the potential threats posed to devices as well as how these threats work and how to defend against them.</p> <p>WHY NOW -</p> <p>Students will gain an insight into the threats posed against them in an online environment as well as on their devices. It is crucial for learners to understand the purpose of these threats, how they work and how to defend themselves against them.</p>
	TERM 1.2 - Systems Software	<p>WHY THIS -</p> <p>The aim of this unit is to provide learners with an insight into the software that makes a computer system work, learners will focus on the purpose of operating systems, the need for application software and the importance of utility software.</p> <p>WHY NOW -</p>

	<p>TERM 2.2 - Producing robust programs</p>	<p>development, programming, and related fields. It equips them with essential skills in high- and low-level programming languages and proficiency in using Integrated Development Environments (IDEs),</p> <p>WHY THIS -</p> <p>In this unit, students will build on prior learning by understanding the importance of defensive program design and testing. Students will learn how to implement authentication to anticipate program misuse as well as understanding the purpose of input validation and how a program can be maintained through the use of commenting, naming conventions, indentation and sub programs.</p> <p>WHY NOW -</p> <p>The "Producing Robust Programs" topic equips students with the knowledge and skills necessary to develop software that is resilient, secure, and maintainable in various real-world scenarios.</p>
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