# Year 11 Computer Science Curriculum

| | AUT1 | AUT2 | SPR1 | SPR2 | SUM1 | SUM2 |
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| **Topic:** | To be able to understand the different aspects of network security<br><br>To be able to understand and identify threats to computer systems and networks<br><br>To be able to identify and suggest how to prevent vulnerabilities within computer systems<br><br>To understand and be able to describe the ethical, legal, cultural and environmental impacts of digital technology<br><br>To understand and be able to describe the ethical, legal, cultural and environmental impact of technology | To be able to understand what constitutes robust programming and to be able to produce robust programs<br><br>To understand and describe defensive design<br><br>To understand the importance of testing and to be able to create and use testing documentation<br><br>To understand the different types of programming languages and to understand the role of integrated development environments (IDEs) | J277/01 & J277/02 Consolidation and Revision<br><br>Exam technique on extended mark questions for:<br>• Computer or CPU performance.<br>• Ethical, Legal, Environmental Concerns surrounding technology<br><br>To discuss appropriate methods of secondary storage for a given scenario<br><br>To understand the differences between volatile and non-volatile memory<br><br>To apply methods of Computational Thinking to solve, correct and complete algorithms<br><br>To apply booleon logic to logic gates and expressions to achieve the correct output | J277/01 & J277/02 Consolidation and Revision<br><br>To be able to identify the correct role for each register in the Von Neumman Architecture<br><br>To apply the correct conversions and data transfer calculations to relevant units<br><br>To successfully identify the difference between lossy and lossless compression and the impact each has on the size and quality of a file<br><br>To discuss the role of an operating system<br><br>To understand all elements of utility software and their respective roles<br><br>To be able to illustrate different network topologies<br><br>To discuss the difference between a LAN and WAN network | Exam Prep | |
| **Knowledge Covered:** | • Network Security | | All topics | | | |

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| | • Computer Ethics<br>• Robust Programs<br>• Programming languages and IDE | | |
| **Online resources:** | Seneca<br>MS Teams | | |