

Curriculum Map - Year 13 - Computer Science (2023-24)

Topic Name	Term	Skills Developed	Next link in curriculum	Other Notes
NEA Programming Project (continued)	Autumn 1	 Independent NEA project. Analyse, design, implement, test and evaluate a system developed for a real end user to fulfil a specific need. 		Links to Prior Learning: Y10 Algorithms Y12 Programming Techniques Y11 Creating Robust Programs Y12 Computational Thinking Y12 Data Structures and Algorithms
Exchanging Data	Autumn 2 / Spring 1	 Compression – Lossy/lossless/ comparison of lossless algorithms. Encryption – Caesar (substitution) ciphers, transposition ciphers, Vernam cipher. Symmetric vs Asymmetric Encryption. Hashing 		Links to Prior Learning: Y10 - Storage / Representing Data Y10 Programming Fundamentals (SQL elements) Y11 - Network Security
Data Types and Boolean Logic	Autumn 2 / Spring 1	 Binary number representation – positive and negative – Sign and magnitude / twos complement. Floating point / normalisation Bitwise manipulation. Character Sets Boolean algebra Simplification of expressions. 		Links to Prior Learning: Year 11 – Boolean Logic (Spring 2) Year 10 – Data Representation (Spring 1)



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		Boolean algebra laws.	
Social / Legal / Ethical / Cultural Aspects	Spring 2	 Computer related legislation. Moral, social, ethical and cultural issues in computing with areas such as Al, Automation, privacy, censorship. 	Links to Prior Learning: Y11 – Social Ethical Legal Factors (Autumn 1)