

Term	Week	Focus	Summary	Learning Outcomes	Learning skills
Term 1.1	1	Introduction to the course Data Representation	Setting up OneNote, Understanding the course and expectations Binary Number System	To show a deep understanding of the working of binary to allow conversions between number bases.	Hardworking, Realising
	2	Data Representation	Hexadecimal Unit Size	Ability to transfer knowledge from binary to base 16 hexadecimal and understand its roles in the real world To know the units that are used to measure quantities of bytes.	Linking, Analysing
	3		Binary Arithmetic Character encoding	Ability to add, multiply and divide in binary Discuss and demonstrate the working of ASCII while comparing it with Unicode	Linking, Realising
	4		Representing images Mini Assessment	Describe the process of how images are stored using binary and how the quality of these can be improved. What is the butterfly effect of this?	Critical Thinking
	5		DIRT Representing audio	Discuss how sound files are stored using binary and how sample rate effects the quality of the sound file.	Metathinking, Realising
	6	Data Representation	Data compression Mini Assessment and DIRT	Analysis data compression methods and understanding when each should be used.	Critical thinking, Agile

Term 1.2	1	Computer Systems	Logic Gate	Understand the workings of logic gates and logical circuits. Applying these concepts to real world problems.	Critical thinking, Creating
	2		Application Software and System Software System Architecture	Understand the roles of various application software and system software. Exploring the Von Neumann architecture and the fetch execute cycle	Collaboration, Research skills, Linking
	3		Memory, Optical and Magnetic storage	Explain the workings of ROM and RAM and the impact this has on the development of a range of technological devices. Ability to describe the process of how a computer stores data on optical storage. Ability to describe the process of how a computer stores data on magnetic storage.	Collaboration, Creating
	4		Cloud storage and SSD Embedded System	Summarising the advantages and disadvantages of cloud storage. Discuss the relative advantages of all storage devices. Explain what an embedded system is and how an embedded system differs from a non-embedded system.	Linking, Hardworking
	5		Assessment and DIRT		Metathinking
	6	Networking	Fundamentals of Networking Network types and Topologies	Define what a computer network is. Discuss the benefits and risks of computer networks. Identifying various network types and understanding their differences. Comparing wired vs wireless networks.	Linking, Hardworking