

Term	Week	Focus	Summary	Learning Outcomes	Learning skills
Term 1.1	1	Curriculum orientation, expectations and system setup			
	2	Fundamentals to OO programming	Programming paradigms, intro to OO and encapsulation	Exploring different programming paradigms and creating your first OO program	Analytical Thinking Creating Linking Critical Thinking
	3		Inheritance and polymorphism	Understanding the roles of inheritance and polymorphism with OO and the ability to create programs that use this effectively	Critical Thinking Creativity Linking
	4		Abstraction, methods and aggregation	To understand the different types of objects that exist in OO programming	Creativity Linking Analytical Thinking Critical Thinking
	5		Recursion Mini assessment	Create programs that use recursion and understand its uses and limitations	Problem Solving
	6	Data Structures and Algorithms	Stack, queues, lists and graphs	To understand what is abstract data types and explore the working and programming of stacks, queues, linked lists and graphs	Critical Thinking Meta thinking

Term 1.2	1		Binary tree's, hashing, dictionaries and vectors	Evident how abstract tress "order" data and create programs to illustrate this	Analytical Thinking Analysing
	2	Data Structures and Algorithms	Optimisation algorithms	Explain and evidence the working of and create programs that make use of Dijkstra, traversals and reverse Polish notation	Analytical Thinking Creating Collaboration
	3		Searching and sorting algorithms	Creating programs that use sorting and searching algorithms	Analytical Thinking Meta thinking Realising
	4	Computational Thinking	Turning Machines, Regular and context free languages, Maths for regular expressions	To explore, describe and evident computation thinking techniques	Problem Solving Critical Thinking
	5	Computational Thinking and Advanced data representation	Backus-Naur Form, Big O Notation The binary number system	To explore, describe and evident computation thinking techniques Ability to extended the range and accuracy of binary numbers available within a byte including floating point numbers	Problem solving Linking Meta thinking
	6	Networking	The Internet, Internet security	To understand the workings of the internet including URL, ports and NAT's	Analytical Thinking Meta thinking Critical thinking
	7		TCP/IP, Client-server model	Exploring and explaining how the TCP/IP model transits data packets	Analytical Thinking Critical Thinking Hardworking
	8	Functional Programming	Basics of functional programming	To understand what the functional programming paradigm is and how functions can be used to construct programming code	Analytical Thinking Problem Solving Creating