

CSE 114 Data Structure and Algorithm Lab **Credit: 1.00** **Credit Hour: 2hr/week**

Date of Course Design: 07.07.2023

Designed By: Suman Saha

Required Software Tools: Codeblocks/Turbo C/Eclipse

Language: C/C++

Week 1	Array: Traverse, Insertion, Deletion; Searching: Linear Search, Binary Search
Week 2	Sorting: Bubble sort, Insertion sort, Selection Sort
Week 3	Divide and Conquer: Merge Sort
Week 4	Greedy: Fractional Knapsack problem, Activity Selection Problem
Week 5	Dynamic Programming: 0-1 Knapsack Problem, Longest Common Subsequence
Week 6	Operations on Linked List: Creation, Insertion, Deletion, Traversal
Week 7	Review Class/Online Test
Week 8	Implementation of Stack
Week 9	Implementation of Queue
Week 10	Recursion, Sorting: Quick sort, Heap Sort
Week 11	Tree Implementation: BST, MST, Huffman Tree
Week 12	Graph Implementation: BFS, DFS
Week 13	Graph: Single Source Shortest Path: Dijkstra's Algorithm, All Pairs Shortest Path: Floyd Warshall's Algorithm
Week 14	Final Examination