

Preliminaries	
1	Basic Mathematics: Notations and Meanings
2	Discrete Mathematics Structures
3	Complexity Analysis
4	Big O and other asymptotic notations
5	Examples: Sorting
6	Examples: Searching
7	Sequential Allocation: Arrays
8	Linked Allocation: Pointers and Linked List
9	C/C++ Pointers

Remarks:

Elementary Data Structures	
1	Stacks as an abstract data type
2	Queue as an abstract data type
3	Stacks : Implementations
4	Queues: Implementations
5	Dequeues
6	Example: Topological Sort
7	Example: Heap
8	Example: Implementing a Priority Queue (PQ) via Heap
9	Example: Other data structure alternative for PQ

Remarks:

Sorting Methods	
1	The Sorting Problem
2	Basic Sorting Methods
3	In-place Sorting
4	Stable Sorting
5	Tree Based Sorting Methods
6	Divide and Conquer based methods
7	Limitations on Comparison Based Sorting
8	Examples on non comparison based sorting
9	Remarks on using sorting methods

Remarks:

Trees and Searching I	
1	Trees and Graphs
2	Trees as data structures
3	Tree Traversal Methods
4	Binary Trees and Extended Binary Trees
5	The Dictionary ADT
6	Binary Search Trees
7	AVL trees: a height balanced binary search trees
8	Splay trees: a self adjusted binary search trees
9	Remarks on the Dictionary Data Structures

Remarks: