

University of Technology
Computer Engineering Department
Academic Year 2023 - 2024

Second Year – Second Semester - Information Technology Branch
-Network Branch



CE238	Data Structure and algorithms	2 Hours/Week	2 Units
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Contents of Syllabus	Hours
• Math review, logs, series, recurrence relations, proof by induction.	2
• Algorithm Analysis, max subsequence sum, longest increasing subsequence,	4
• Lists and garbage collection Multilinked structures and dynamic storage allocation	2
• Linked lists	2
• Stacks,	2
• Queue	2
• priority queues	2
• Trees, balanced trees, AVL Trees, B-Trees, Red-Black trees.	4
• Hashing, linear probing, quadratic probing, double hashing.	4
• Heaps, Binary Heaps	2
• Sorting, Insertion Sort, Shell's Sort, Quicksort, Heapsort, Mergesort	4

References

1. C++ Programming : Program Design Including Data Structures by D.S. MALIK ,fourth Edition ,2009 .
2. C++ Plus Data Structures by N. Dale ,fourth Edition,2010,Jones and Bartlett Publishers
3. Data Structures and Algorithms in C++ by Adam Drozdek , Second Edition, 2001.

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