

Title of the course: advanced algorithms

Lecturer: Dr.Y. Kord Tamandani

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References:

- **Advances In Metaheuristic Algorithms For Optimal Design Of Structures Second Edition By A.Kaveh**
- **Introduction To Algorithms Third Edition By Thomas H. Cormen**

Assessments:

Mid-term Exam	4 points
Final Exam	12 points
Class Activity	2 points
Attendance	2 points

Subjects to be discussed:

TOPICS	SESSIONS
INTRODUCTION TO ALGORITHMS	1st and 2nd sessions
SOME BASIC ALGORITHMS AND THEIR ANALYSIS	3rd and 4th sessions

HEAP BUILDING A HEAP HEAP SORT ALGORITHM	5th and 6th Sessions
PRIORITY QUEUE IMPLEMENTING PRIORITY QUEUE USING HEAP RANDOMIZED VERSION OF QUICK SORT	7th and 8th session
	9th sessions
ELEMENTRY DATA STRUCTURE QUEUE, DOUBLE LINKED LIST, BINARY TREE, GRAPHS	10th ,11th and 12th sessions
BREADTH –FIRST SEARCH DEPTH-FIRST SEARCH TOPOLOGICAL SORT MINIMUM SPANNING TREE	13th ,14th and 15th sessions
META HEURISTIC ALGORITHMS PSO AND GENETIC ALGORITHM	16th and 17th sessions