

(SYLLABUS)

1.

(Course Title)		(Instructor)			
(Year)	2025	(Semester)	2	(Course No.)	2150014001
(Class)	01	(Open to)	2 AI , AI	(Course Classification)	-AI
/	3.0 / 03 / 3		100	가	가
(Office)	709	(Telephone)	0954	(e-mail)	khlee.cs@ssu.ac.kr
	,	(PBL)			
	(*) (ABEEK Classification)			(*) (ABEEK Requirement)	
		(C++)			
(Course Description)	greedy method, , branch-and-bound	가		divide-and-conquer, . .	

	AI/
	AI/
	HW/SW

가	(100)	(100%)
	35	35
	35	35
	20	20
	10	10

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(Required Texts)	()	* /Introduction to Algorithms/Thomas H. Cormen et al/The MIT Press/2022/4th Edition/ * / / / / /2018/	
		C++	
	:	C/C++ , Problem Solving () .	
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2.

(Week)	(Keyword)	(Description)		(Texts)
01	Introduction	- algorithm overview - computer science and algorithms		
02	Analysis	- correctness analysis - asymptotic analysis		
03	Divide and conquer	- recall: sorting - divide and conquer paradigm - merge sort	,	,
04	Divide and conquer	- master method - linear-time selection		
05	Advanced sorting & randomized algorithms	- linear-time sorting - hashing		
06	Tree algorithms	- tree data structure - binary search tree - balanced binary search tree	,	,
07	Graph algorithms	- graph data structure - graph search algorithms		
08		- graph search: DFS and BFS -	,	
09	Graph algorithms	- topological ordering - shortest path finding	,	,
10	Dynamic programming	- dynamic programming paradigm - elements of DP - Bellman-Ford algorithm		
11	Dynamic programming	- Floyd-Warshall algorithm - longest common subsequence - knapsack		
12	Dynamic programming Greedy algorithms	- independent sets - greedy paradigm - activity scheduling	,	,
13	Greedy algorithms	- Huffman coding - minimum spanning tree (Prim's and Kruskal's)		
14	NP completeness	- NP and NP-hard - NP completeness		
15		- 3-SAT - clique -	,	

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3. ()

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Open-ended problem			
	Teamwork		
	Communication skills		