CS 435

Algorithms

Schedule

Theme	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Foundations of Analysis and Sorting Algorithms	Introduction and Overview	Stacks, Queues, Vectors, Lists, and Sequences	Trees and Amortized Analysis	Priority Queues, Selection-sort, Insertion-sort, and Heap-sort	Divide-and-Conquer Paradigm: Merge Sort and Quick Sort	Divide-and-Conquer Analysis and Lower Bound on Sorting by Key Comparison
	Algorithm Analysis	Reading & Homework	Reading & Homework	Reading & Homework	Reading & Homework	Reading & Homework
Trees and Searching	Unordered Dictionaries, and Ordered Lookup Tables	Ordered Dictionaries: Binary Search Trees, AVL, and 2-4 Trees	Red-Black Trees	Quick Selection and Linear Sorting Algorithms	Review for Exam	Mid-term Exam
	Reading & Homework	Reading & Homework	Reading & Homework	Reading & Homework	Quiz 1 and Study	
Greedy, Dynamic Programming, and Graph Theory	Greedy Algorithms, Dynamic Programming, and Memoization	Intro to Graphs & Graph Traversal (DFS)	Graph Traversal (BFS) and Template Methods	Weighted Graphs, Shortest Paths	Minimum Spanning Trees	P vs. NP Is P = NP?
	Finish Homework	Lab, Reading & Homework	Reading & Homework	Reading & Homework	Reading & Homework	Reading & Homework
Computability and Complexity Theory	Complexity Classes NPH and NPC	Approximation Algorithms and Review of P-NP-NPH-NPC	Review for Exam	Final Exam		
	Reading & Homework	Reading & Homework	Quiz 2 and Study			