College of Computer Science
Northeastern University
COM 1390: Algorithms

Winter 2000
Handout 2
6 January 2000

Tentative Course Schedule

Jan 6	**Administrivia and Introduction** RAM model, insertion sort *Reading*: Chapter 1
Week of Jan 10	**Mathematical background** Functions, asymptotic notation, summations and recurrences Review of discrete mathematics *Reading*: Chapters 2–5 Problem Set 1 out
Week of Jan 17	**Sorting** Heapsort, mergesort and quicksort *Reading*: Chapters 7 and 8 Problem Set 1 due Problem Set 2 out
Week of Jan 24	**Divide-and-conquer** Randomized selection *Reading*: Sections 10.1 and 10.2 Strassen's algorithm for matrix multiplication *Reading*: Sections 31.1 and 31.2 Problem Set 2 due Problem Set 3 out
Week of Jan 31	**Data structures** Binary search trees and hashing *Reading*: Chapters 12 and 13 Problem Set 3 due
Week of Feb 7	**Graphs and graph traversals** Graph representations, depth-first search, breadth-first search *Reading*: Chapter 23 **Midterm**
Week of Feb 14	**Graph traversals**, continued Topological sort, strongly connected components *Reading*: Chapter 23 **Minimum spanning trees** *Reading*: Chapter 24 Problem Set 4 out

Week of Feb 21	**Minimum spanning trees**, continued *Reading*: Chapter 24 **Single-source shortest paths** *Reading*: Chapter 25 Problem Set 4 due Problem Set 5 out
Week of Feb 28	**Greedy algorithms** Huffman codes *Reading*: Chapter 17 **Dynamic programming** Longest common subsequence *Reading*: Chapter 16
Week of Mar 6	**Dynamic programming**, continued Matrix chain multiplication **Review** Problem Set 5 due