Brooklyn College
Department of Computer & Information Sciences

CISC 7210 [*714.1X] Graph and Network Algorithms

37½ hours, plus conference and independent work; 3 credits


Course Outline:

Week 1: Introduction and review of graphs and their representations.
Week 2: Review of graph traversals DFS, BFS and minimum spanning trees.
Week 3: Single source shortest paths.
Week 4: All to all shortest path.
Week 5: Maximum flow.
Week 6: Euler and hamiltonian tours.
Week 7: Midterm.
Week 8: Planar graphs
Week 9: Interval graphs
Week 10: Perfect graphs, matching.
Week 11: Vertex coloring
Week 12: Edge coloring.
Week 13: NP-complete graph problems.
Week 14: Approximation algorithms for graph problems.

Bibliography and References:

- Robert Sedgewick; Algorithms in C: Part 5 Graph Algorithms 3RD Addison Wesley 2001