SYLLABUS
CS 594 – Applied Combinatorial Optimization

University of Illinois, Chicago                Fall 2002
308 BH                                        MW 2:00-3:15

1 General Information

Instructor: John Lillis. email: jlillis@cs.uic.edu
Office: 936 SEO
Office Hours: T, Th 1:00-2:30 or by appointment

Prerequisites: cs401 or eq.
Text: Combinatorial Optimization: Algorithms and Complexity
by C. Papadimitriou, K. Steiglitz

Reference Text: Introduction to Algorithms
by T. Cormen, C. Leiserson, R. Rivest, C. Stein

Topics (subject to change)

• NP-completeness
  – Theoretical Background
  – Exact Algorithms
  – Approximation Algorithms
  – Heuristic and Search Based Techniques

• Modern Network Flow Algorithms

• Algorithms for Min Cost Flow

• General Matching

• Linear Programming and Duality

• Matroids

Course Requirements

• Written Homeworks and Exams

• Implementation Project including presentation