

SYLLABUS

CS 594 – Applied Combinatorial Optimization

University of Illinois, Chicago
308 BH

Fall 2002
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