

# MCS 521 – Combinatorial Optimization Syllabus

Lev Reyzin

Fall 2013

**Time and Location:** T-R, 9:30-10:45 am, Lincoln Hall (LH) 104

**Instructor:** Lev Reyzin, SEO 713, (312)-413-9576, [lreyzin@math.uic.edu](mailto:lreyzin@math.uic.edu)

**Prerequisites:** Some familiarity with algorithms, basic computational complexity theory, and mathematical maturity.

**Office Hours:** to be announced

**Website:** [http://homepages.math.uic.edu/~lreyzin/f13\\_mcs521/](http://homepages.math.uic.edu/~lreyzin/f13_mcs521/)

**Textbook:** W. J. Cook, W. H. Cunningham, W. R. Pulleyblank, A. Schrijver. *Combinatorial Optimization*.

**Topics:** MCS 521 is an advanced course that somewhat differs in topics each time it is offered. This year it will survey canonical problems and techniques in combinatorial optimization. Example topics include: linear and convex programming, spanning trees, matchings, flows, TSP, and approximation algorithms. This course is represented in the combinatorics prelim.

## Grading:

- 40% problem sets (one every couple weeks)
- 30% in-class presentation – each student will have to present a relevant research paper on the topic (to be approved by the instructor) and be expected to answer questions about it.
- 30% exam (take-home or in-class TBD)

**Problem Set Collaboration Policy:** Unless otherwise specified on an assignment, students may discuss problem sets with one another, but they should afterward write the solutions on their own. Collaborators (people you speak to about an assignment) must be named at the top of the assignment. No collaboration will be allowed on exams.

**Late Work Policy:** In general, late work will not be accepted. Problem sets are to be turned in by 9:30 am the day they are due, either in class or via my mailbox (on the 3rd floor of SEO). Any exceptions will be handled on a case-by-case basis.

**Disability Policy:** Students with disabilities who require accommodations for access and participation in this course must be registered with the Office of Disability Services (ODS). Please contact ODS a 312/413/-2183 (voice) or 312/413-0123 (TTY).