MA/STA 515 — LINEAR AND COMBINATORIAL OPTIMIZATION
MWF 2:00–2:50 — CB347

COURSE WEBPAGE: www.ms.uky.edu/~lee/ma515fa06/ma515fa06.html

INSTRUCTOR: Carl Lee, 967 POT, 257-1405, lee@ms.uky.edu, www.ms.uky.edu/~lee

OFFICE HOURS: MWF 1:00–1:50 and by appointment, since I realize that some of you will be unable to come at these times. Also, I may need to schedule some additional formal times for the class to meet, since there are some class days when I will be out of town.

TEXT: Jon Lee, *A First Course in Combinatorial Optimization*, Cambridge, 2004. I will also prepare some course notes.

TOPICS:

1. Chapter 0: Polytopes and Linear Programming

2. Chapter 1: Matroids and the Greedy Algorithm

3. Chapter 2: Minimum-Weight Dipaths

4. Chapter 3: Matroid Intersection

5. Chapter 4: Matching

6. Chapter 5: Flows and Cuts

7. Various miscellaneous topics as time permits

GRADING:

> Homework: 50%
> Exams: 30%
> Final: 20%

HOMEWORK: Usually collected weekly, but some problems may be collected more frequently. I also expect to ask students to present solutions on the board at various times, and for some problems to be typed in LATEX. From time to time I will give additional homework assignments for the graduate students enrolled in the course that will not be required of the undergraduate students. Problems are assigned to be solved. Searching the textbooks or the

library for solutions is not permitted. On regular assignments you may discuss the problems with other current class members and with me. However, when it comes time for you to write up the solutions, I expect you to do this on your own. If you receive assistance from someone else, include a written acknowledgment. Such an acknowledgment is a professional courtesy and will not affect your grade.

EXAMS: There will be two or three exams (tentative dates: September 20, October 18, and November 15) and a final exam (December 11).

IMPORTANT DATES:

> Wednesday, August 23, First day of classes
> Tuesday, August 29, Last day to add a class
> Monday, September 4, Labor Day holiday—no class
> Wednesday, September 13, Last day to drop a class without a grade
> Friday, October 6, October break—no class
> Saturday–Sunday, October 7–8, Tentative math graduate "cease-fire" weekend
> Friday, October 20, Last day to withdraw from a class
> Thursday–Friday, November 23–24, Thanksgiving holiday—no class
> Friday, December 8, Last day of classes
> Monday, December 11, 1:00 p.m., Final exam.

CHEATING AND PLAGIARISM: Cheating and plagiarism are not worth it, and they are damaging to your self-integrity, so don't do it. Here is the website with information on University policies: http://www.chem.uky.edu/research/grossman/acadoffenses/index.htm.