MATH 340 course outline- Summer 2015

Schedule

Lectures: Tuesdays-Thursdays-Fridays 2-4 pm, Wednesdays 2-3 pm, Math Annex. 1100.
Midterm: June 4th, in class.

Instructor

Tali Pinsky, Math 229A, tali@math.ubc.ca.
Office hours: Wednesdays 1-2 pm, or by appointment.

Textbook

Vaŝek Chvátal, *Linear Programming* W. H. Freeman and co., New York, 1983.
The following might also be useful, and is available for free with your CWL: Robert J. Vanderbei ,*Linear Programming: Foundations and Extensions*, Springer, 2001.

Syllabus

We will switch back and forth between the theory of linear programming and its applications. More specifically we will go through-
Theory (Chapters 1-6 in Chvátal): the simplex method, duality theory, matrix notation. Depending on the time, we will also cover some of the following: General LP problems (Chapter 7), interior point methods (Part 3 in the book by Vanderbei), sensitivity analysis (Chapter 10), binary representations (handouts).
Applications (Part II of Chvátal, Part 2 in Vanderbei and handouts): Game theory (matrix games, simplified poker), geometry (separation of points,

curve fitting), management (crew scheduling, queuing, inventories, minimization of costs), transportation/network problems.

Homework

There will be homework assignments to hand in every Wednesday in class (except on the week of the midterm- June 3rd). Other than that you will work on projects on an application of your choice, in small groups, mostly in class.

Grading Scheme

55% Final exam

25% Midterm (we will use the maximum between the midterm and the final)

15% Homework and projects

5% Clickers