

APM 236H1F Course Outline, Fall, 2014

Applications of Linear Programming

The website for this course:

<http://www.math.toronto.edu/cms/courses-2/> (click on APM 236H)

Hereafter this will be referred to a “the website”.

Instructor: Paul Kergin, Sidney Smith room A1071. Telephone: (416) 978-3361. If no one answers, leave a message with the mathematics department at (416) 978-3323. Office hours: Mondays 2:10 pm – 3:00 pm, Fridays 1:10 pm – 2:00 pm, beginning 15 September.

Prerequisite: MAT 223H1 or MAT 240H1.

Text: Bernard Kolman and Robert E. Beck, Elementary Linear Programming with Applications, 2nd Edition, Harcourt, Brace, Jovanovich, publishers. A link to a copy of this book is provided in the website.

Additional materials: Seven problem sets are available from the website, as well as their solutions. The website also has links to a collection of simplex and dual simplex examples. Some of these will be used extensively during certain lectures.

Marking scheme: Two term tests, each worth 20% of the total mark, and a 3 hour final exam worth 60% of the total mark. Calculators are not allowed during the term tests and final exam. Term test times and locations are to be announced later.

Course summary (subject to change): A quick review of linear algebra (Chapter 0 in Kolman and Beck). Convex analysis and basic solutions (Chapter 1). The simplex method (Chapter 2), omitting “Big M Method”, pages 147 – 150. Duality (Chapter 3), omitting “Now let us consider . . .” (page 197) to page 201 inclusive, §3.6, and §3.7.