

92.572 Optimization Dr. Charles Byrne
Course Overview

Instructor: Charles Byrne, 428W Olney, x2447

Web Site: <http://faculty.uml.edu/cbyrne/cbyrne.html> .

Overview: Topics include geometric, linear, convex and quadratic programming, the simplex algorithm, the Karush-Kuhn-Tucker Theorem, matrix games, convex functions and duality, constrained and unconstrained iterative optimization, derivative-free methods, likelihood maximization, and compressed sensing.

Intended audience: Optimization methods are used widely in numerous areas of applications. This is a beginning graduate course in the Applied and Computational Mathematics option of the masters program in Mathematics, but is not aimed exclusively at students in that program.

Class Format: There will be one three-hour lecture per week. Lecture material will be taken from the text. Grades will be based on homework exercises and class participation. Homework will be collected and graded twice during the semester. Problems in the text that are homework problems are so indicated.

Required Text: The required text is:

“A First Course in Optimization” . This text is available as a pdf file on the website, under ALL COURSES. While I continue to correct typos and make other changes to this book as found elsewhere on the website, the course text is the August 20, 2009 version.