Topic course on convex optimization theory and algorithms
Math 7390   Spring 2024

Time: Tuesday and Thursday, 1:30-2:50 PM

Classroom: Room 232, Lockett Hall

Instructor: Name: Hongchao Zhang   Email: zhc At lsu.edu
web page : http://www.math.lsu.edu/∼hozhang/Math7390-Spring2024/Math7390.html

Office Hours: Tuesday and Thursday 11:00∼12:00noon, or by email Appointment

Text: *Convex Optimization by Stephen Boyd and Lieven Vandenberghe*, ISBN 978-0-521-83378-3
Lectures on Convex Optimization (Second Edition) by Yurii Nesterov, ISBN 978-3-319-91577-7

Prerequisites: Linear Algebra, Numerical Linear Algbra, Multivariable Calculus

Contents: Convex optimization theory and algorithms have played important role in modern optimization. This course will focus on the theory and algorithm development for solving convex optimization problems. Tentative topics include Convex sets, Convex functions, Duality theory, Smooth Convex Optimization, Nonsmooth Convex Optimization, First-order and Second-order methods and their complexities.

Homework: Homework will be assigned during the lecture.

Grade: Class Attendence: 20%; Homework: 20%; Midterm Project: 25% Final Project: 35%

Grade Scale: A-: 90-92 A:93-96 A+:97-100; B-: 80-82 B:83-86 B+:87-89;
C-: 70-72 C:73-76 C+:77-79;   D-: 60-62 D:63-66 D+:67-69; F: less than 60
Final grades maybe finally scaled, but will only be scaled up.

Note: Except for unforeseen reasons, students must obtain advance approval from the instructor for missing any assignments