2019 Fall MAS 374 Optimization Theory

July 7, 2019

- Lectures: Tu/Th 2:30 - 3:45, E2 1223
- Instructor: Donghwan Kim (donghwankim@kaist.ac.kr, E2 3205)

  Office hours: Mo 2:00 - 3:00 and by appointment
- TA: TBD
- Textbook: Optimization Models (2014, First Edition) by G. Calafiore and L. El Ghaoui
- References: Convex Optimization (2004, First Edition) by S. Boyd

  Numerical Optimization (2006, Second Edition) by J. Nocedal and S. J. Wright

  Linear Algebra and Learning from Data (2019, First Edition) by G. Strang
- Course Website: `http://klms.kaist.ac.kr`
- Tentative Schedule:

Week	Topics (Chapters)	No Class	Homework
1 (Sep/2-)	Introduction (1), Review of linear algebra (2-3)		
2 (Sep/9-)	Review of linear algebra (4)	Sep/12	1
3 (Sep/16-)	Singular value decomposition (5)		2
4 (Sep/23-)	Linear equations and least squares (6)		3
5 (Sep/30-)		Oct/3	4
6 (Oct/7-)	Convexity (8)		5
7 (Oct/14-)			
8 (Oct/21-)	Midterm exam		
9 (Oct/28-)	Linear, quadratic and geometric models (9)		
10 (Nov/4-)		Nov/7	6
11 (Nov/11-)	Second-order cone and robust models (10)		7
12 (Nov/18-)	Semidefinite models (11)		8
13 (Nov/25-)	Algorithms (12), Applications (13-14)	Nov/28	9
14 (Dec/2-)			10
15 (Dec/9-)		Dec/12	
16 (Dec/16-)	Final exam		

- Exams: There will be midterm and final exams. (Th 1:00 - 4:00, E2 1223)
- Homework: Homework will be assigned weekly (except a couple of weeks). They will be due each Thursday (or sometimes Tuesday depending on the schedule), turned in to the instructor after the lecture. Late homework will be penalized 10% for each day it is late.
- Grades: Midterm exam (30%), Final exam(30%), Assignments(40%)