

**Office Hours:** See webpage.

**Prerequisites:** (1) Calculus for both single and multivariables, and (2) Linear Algebra.

**Objectives:** Understanding the optimization problem that is ubiquitous in engineering fields and computer science with its four basic classes: linear, quadratic, convex, and non-linear. The student should be able after studying this course to treat the optimization problem both mathematically and computationally.

**Text:** The main text, which lectures follow, is [Boyd and Vandenberghe \(2004\)](#) and some examples may be given from [Chong and Zak \(2001\)](#).

**Course Syllabus:** The lectures will exactly follow [Boyd and Vandenberghe \(2004\)](#). The plan is to study the first 5 chapters: introduction, convex sets, convex functions, convex optimization problems, duality; then some topics will be selected from the applications and algorithms.

**Assignments:** will always be posted on the webpage. **No late assignments please.**

**Grading Policy:** 60% for the final exam, 20% for the midterm, and 20% on quizzes and computer exercises.

## Bibliography

Boyd, S. and Vandenberghe, L. (2004), *Convex Optimization*, Cambridge: Cambridge University Press.

Chong, E. K. and Zak, Stanislaw, H. (2001), *An Introduction to Optimization*, Wiley-Interscience, 4th ed.