

Course Overview

An Introduction to Optimization

Spring, 2013

Wei-Ta Chu

2013/2/22

Class Information

- ▶ **Time:** 8:45~11:30, Friday
- ▶ **Location:** Room 101
- ▶ **Lecturer:** Wei-Ta Chu (Office 413, CSIE Building)
- ▶ **Textbook:** Edwin K.P. Chong and Stanislaw H. Zak, An Introduction to Optimization, 3rd edition, 2008.
- ▶ **Course website:**
 - ▶ http://www.cs.ccu.edu.tw/~wtchu/courses/2013s_OPT/index.html
- ▶ **TA:** To be announced

Grading (subject to change)

- ▶ Homework (30%)
- ▶ Midterm (30%)
- ▶ Final Project (40%)

Syllabus

- ▶ Part 1: Mathematical Review
- ▶ Part 2: Unconstrained Optimization
- ▶ Part 3: Linear Programming
- ▶ Part 4: Nonlinear Constrained Optimization

Prerequisite

- ▶ Linear Algebra
- ▶ Calculus
- ▶ Concepts from Geometry

Why This Course?

- ▶ Optimization is central to any problem involving decision making
- ▶ This course
 - ▶ introduces fundamental ideas of optimization theories
 - ▶ lets you know how to apply optimization techniques to research problems
 - ▶ will request you to formulate a (your) research work as an optimization problem and to solve it.

What You Should Do Now?

▶ Review Linear Algebra

- ▶ Any textbook about Linear Algebra (in most cases, knowing basic parts is sufficient for you to take this course)
- ▶ http://www.cs.ccu.edu.tw/~wtchu/courses/2011f_LA/index.html

▶ Review Calculus

- ▶ Any textbook about Calculus (in most cases, knowing basic parts is sufficient for you to take this course)
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