

課程名稱: 最適化理論 (Optimization)

教師: 賴聰乾 教授 (台大工管&商研)

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Course Location & Time: 管一會三; 二 678

References:

1. Lecture Notes (prepared by Prof. Tsung-Chyan Lai)
2. Journal Articles
3. "Nonlinear Programming" (by Bazaraa, Sherall and Shetty)
4. "Integer and Combinatorial Optimization (by Nemhauser & Wolsey)
5. "Intro to Operations Research" (by Hillier & Lieberman)
6. "Scheduling" (by Pinedo)
7. "Intro to the theory of cooperative games" (by Peleg and Sudholter)

*Course Goal:* This course is designed for: (1) advanced undergraduate (graduate) students who will pursue a graduate study (who are interested) in management science, operations research, decision theory or financial engineering, (2) PhD students who plan to conduct analytical or axiomatic research (instead of empirical research). Topics to be covered include convex analysis, linear optimization, combinatorial optimization, and optimization in non-cooperative and cooperative games.

*Course Schedule:*

1. (2/19) Introduction
2. (2/26) Convex Sets I
3. (3/4) Convex Sets II
4. (3/11) Linear Optimization I
5. (3/18) Linear Optimization II
6. (3/25) Linear Optimization III
7. (4/1) Convex Functions I
8. (4/8) Convex Functions II
9. (4/15) Convex Functions III
10. (4/22) Review & Exam
11. (4/29) Optimization in Games I
12. (5/6) Optimization in Games II
13. (5/13) Optimization in Games III
14. (5/20) Optimization in Games IV
15. (5/27) Combinatorial Optimization I
16. (6/3) Combinatorial Optimization II
17. (6/10) Review

Course Evaluation: Homework (60%), Exam (20%), Class (20%).